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GENERAL

Thatcher condemns IRA-nail bomb

Prime Minister Margaret Thatcher conditioned Saturday's IRA nail bomb attack in Landon as cold, callous, brutal and sub-

She visited two hospitals Michael Havers, is expected to where 16 were detained after make a statement today about the attack, which killed one and injured 40, including more than larities at the De Lorean sports 20 Irish Guards, Police concar company. Back Page firmed the bomb, near Chelsea Barracks, was irriggered by re-

Thatcher in London pext month, franc virtually reversed the posi-

'Children killed'

 $\lim_{t\to\infty} \frac{(p-1)^{\frac{1}{2}(p)}}{\log p} \frac{1}{2} .$

Transport

in Plantas

12:1

-1 "att#1

Iran's Mujahedin radicals claimed nearly 100 children wounded in Tehran demon-strations were executed last week. Meanwhile Tehran radio said 82 anti-Government mili-tants had been shot.

Fiemish clashes

Belgian police arrested 19 in classics with 1,800 Flemish demonstrators in the Voeren region, focus of rivalry between French and Flemish speakers.

Asylum bid fails

An armed man drove-into the U.S. Embassy in Moscow secking political asylum but left after five hours, to be arrested by police:

N-weapon study

Uranium Institute said agreements between nuclear customerand supplier countries may produce an international consensus for preventing proliferation of nuclear weapons.

Union on attack

Union leader Edward Maire accused the French Government involving a revaluation of 5,5 of backsliding over pre-election per cent of the D-Mark and labour laws. Fage-2

Polish offer

other unions to discuss prices policy, market supplies and rationing. Page 2

EEC poll pledge

Greek socialist leader Andreas Papandreou said his party would hold a referendum on leaving the EEC if it wins next Sunday's general election.

Trench boy saved

A 15-year-old boy was "crifical" in hospital after nearly being buried alive when trench walls on a Stretford rubbish tip collapsed on him.

Fastest Briton

Richard Noble 35 succeeded Donald Campbell as the fastest Briton on land by driving at an average 418.118 mph over a twoway flying kilometre at Bonne-ville salt flats, Utah.

Paperweight

Paper from Derbyshire County Council's computer is piling up in corridors, toilets and the council chambers. The council has been told the floors may

Briefly . . .

not take the weight.

Distributors of anti-Government leaflets were arrested in Toronto this week. Shanghai...

About 6,000 demonstrated against plans to build more run-

BUSINESS

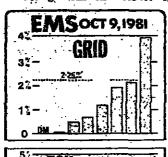
Strike to halt Liverpool docks

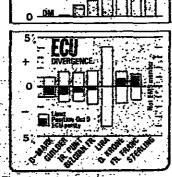
a complete standstill from this morning when 3,500 registered dockers start an all out in-definite strike. Back Page

ATTORNEY-GENERAL Sir allegations of financial irregu-

• EUROPEAN currencies benemote control.

Itish Prime Minister Dr Garret FitzGerald, who meets Mrs rates. The D-Mark and French
Thatcher in London root month may propose an Anglo-Irish itions they have held within the council to examine constitutional issues. Back Page the last few months. Following the realignment on October 4,





The chart shows the two constraints on European Monetary System exchange rates. The upper grid, based on the weakest curroncy in the system, defines versitest currency in the system, denies which to size first, from versities currency fexcept the like may move more than the per cent. The lower than gives each currency s divergence from the "cential-rate" against the European Currency, Unit (ECU), itself a basket of European currencies:

pledges on nuclear power and Dutch guilder, and a devaluation by 3 per cent of the French franc and Italian lira, the French franc moved to the top of the Poland suggested a new mixed System and the D-Mark went commission with Solidarity and from the top to the bottom. A cut in German interest rates on Thursday may prevent the D-Mark returning to the top of the EMS quickly, although French rates also fell towards the end of the week.

• HALF THE WORLD'S top 150 banks are not making a profit, says a London-based

research company. Page 3 INTERNATIONAL Harvester in Britain expects to meet its lead bankers, Barclays and Midland, this week to nego-

tiate a new support package. • ELECTRICITY BOARDS should not be allowed to dis-

• BOILERMAKERS and the NCB criticised the Government because only eight grants worth a few thousand pounds have been made under a £50m scheme to aid conversion of

factories from oil to coal. Page 4 ● EUROPEAN AND U.S. steel producers' fears of renewed onti-dumping battles will dominate discussions at the International Iron and Steel Institute's annual conference in

• MALAYAN TIN Dredging shareholders approved a merger with Malaysia Mining Corporation, creating the world's Shares will be listed from today

Oil companies plan series of North Sea gas pipelines

BY RAY DAFTER

NORTH SEA oil companies are planning a series of gas pipelines to replace the Govern-ment's abandoned £2.76n gathering network.

The industry's proposals could result in the installation of about 600 miles of pipelines and should provide a boost for the offshore supplies industry, in particular the British Steel Corporation.

Companies have told the Gov-erment and the British Gas Corporation they are confident that their systems will ultimately collect as least as much (million trillion million) cubic feet, worth £25bn at current prices—as the 420mile pipeline proposed by the Government. The project was abandoned last month because of financing problems.

Consortia of offshore companies are discussing plans for three systems:

A northerly network, to be built in the next few years and Esso, is due to come on stream

economic ministers will come

week's Conservative Party Con-ference to come up with a convincing justification for their

economic strategy and their

determination to stick to it in

There will be no concessions

critics, such as the former party

curb public borrowing and

threatened higher taxation if

further spending cuts proved

Both Sir Geoffrey, who

addresses the conference on Wednesday and is due to make

major speech at the Lord

Mayor's Mansion House dinner

politically impossible.

leader Mr Edward Heath

BY MARGARET VAN HATTEM, LOBBY STAFF

MRS THATCHER and her Minister, who will address the

under intense pressure at this pected to persist with their

the face of mounting discontent, counter increasing pessimism

This was underlined yester- like open revolt, indications are

day by the Chancellor. Sir that the leadership faces a week

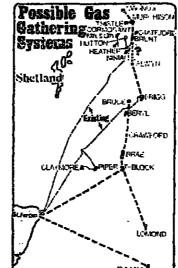
Geoffrey Howe. Speaking on of considerable embarrassment the Weekend World television as the swelling chorus of dis-

programme, he insisted on the carded ministers and other dis-

Government's determination to sidents expand on their criti-

on Thursday, and the Prime change of direction in economic

to increasingly outspoken pects at the next election.



Scotland. 8 A central network, which could be commissioned in the

Thatcher intends to stand

firm on economic policy

conference on Friday, are ex-

tough unconciliator stance. , However, they will be under

pressure to come up with a

new rationale, with fresh argu-

ments to boost morale and

within the party over its pros-

For, while the conference is

The tope this attack is likely

to take was foreshadowed

yesterday by Mr Norman St

John Stevas, sacked from the

Cabinet last January, who warned that discontent within

the party could not be contained

unless there was a significant

unlikely to produce anything

linked to the For North Liquids late 1980s. The pipeline would and Associated Gas System be designed largely to trans-(Flags). The Flags pipeline, port ashore gas from the Mobil being developed by Shell and group's Beryl Field. It could be extended to collect gas from in the next six months linking fields as far apart as Bruce in the Brent discovery and nearby the north to Lomond in the fields to a terminal at St. south—a distance of about 180 Fergus, near Peterhead, miles.

A southern network, based on Shell/Esso's Fuimar Field and the cluster of other oil and gas discoveries in the area. The system is unlikely to be built before the late 1980s or early 1990s because the reserves of this area - almost 200 miles nation plot had deeper roots cast of Dundec - have yet to around the country than the be fully appraised and identi- Cairo Government has so far

A further line is almost certain to be built by two French to the rank of brigadier, accord-companies. Total and Elf. ing to Egyptian and Western between the North Alwyn Field | security experts.
and their existing Frigg gas | Incidents at the weekend have pointed fo widespread unrest and their existing Frigg gas

Plans for the northern network are already well advanced. Shell and Esso are close to agreeing terms for carrying gas from British Petroleum's Magnus Field, British National Oil Corporation's Thistle Field and Conoco's Murchison dis-

Shell and Esso are also discussing with the UK partners in the big Anglo-Norwegian Statfjord Field — Conoco. BNOC and Gulf — the possibility of carrying the UK portion of Statfjord's gas reserves through the northern network and Flags system.

Statijord, the biggest field in Continued on Back Page

leadership.

Egyptians hold 200 as unrest spreads

BY ANTHONY McDERMOTT IN CAIRO

ABOUT 200 soldiers and civilians have been arrested since the assessination of Presi-dent Sadat last Tuesday.

This suggests that the assassiaround the country than the been willing to concede. The officers arrested are up

among Moslem extremists, verging on open insurrection. At least one officer is reported to have been killed at the

Shubra mosque in Cairo when police moved to disperse men who were still gathered there well after the end of evening prayers. There are said to have been

attacks on several police stations in the Cairo area. Meanwhile, Mr Nabawy Ismail, Minister of the Interior, has denied a report that machineguns were fired from two cars at his home in a suburb of the capital

There have been daily reports of bombs in different parts of Cairo. One of the most serious incidents—officially attributed to a grenade exploding accidentally-apparently took place at the harracks in Abbassiyu on Friday night.

The toll from the clashes be-tween well-organised members of the underground Moslem Brotherhood and security forces in Asyut. 250 miles south of Cairo, has now risen from 20 dead to 118 dead and 220 injured. Among the casualties were 45 troops.

Against this background of interviewed on BBC Radio. uncertainty, the U.S. is to step Mr St John Stevas denounced up its military presence in the latest Cabinet reshuffle as Egypt in the coming weeks to "a great misrake" in that it gave the party a Right-wing image and climinated any deviation from the views of the re-affirm its interest in the area. leading members of the Reagan Administration said yesterday, Reginald Dale writes from Washington. No-one, apart from a small

Speaking from Cairo on NBC band, believed that the present Television, Mr Alexander Haig, economic policies could deliver the goods, he added. Motions the Secretary of State, said that the coming month there would be an extensive joint exercise in Egypt, conducted by American and Egyptian forces, Mr St John Stevas also sprang joined by some of the Gulf

whose strident criticisms of the Mr Haig would not confirm Government over the past week reports that the Pentagon is seem certain to dominate displanning to send B52 bombers loaded with live conventional Mr Heath was in a difficult bombs on an on-stop mission position, he said, because while from North Dakota to Egypt his criticisms were often very and back to demonstrate the constructive, they tended to be

Treasury gives warning on tax increases

BY DAYID MARSH

in advance of the Conservative Party conference, that taxes may have to rise next year unless the Cabinet agrees planned cuts in public spending this

message. delivered separately by Sir Geoffrey Howe, the Chancellor of the Exchequer, and Mr Leon Brittan, the Chief Secretary to the Treasury, is that the Government is sticking to its strategy of bringing down in-terest rates and inflation by

reining in public borrowing, Sir Geoffrey, interviewed yes-terday on felevision's Weekend World said he wanted to cut pending rather than raise

'I would like to lighten some of the tax burdens on industry and enterprise," he said. But tax increases were one of the options open in next spring's Budget in order to produce a borrowing requirement that could be financed without

putting upward pressure on in-Mr Brittan, in an interview in the Financial Times, said that although nothing had yet been decided, there was "a very trong case for tax reductions for industry, such as a cut in the National Insurance sur-charge. He warned however, that public sector borrowing was a "crucial determinant" and said it would be "extremely

difficult even to retain the pre-

sent position as far as tax is concerned" unless planned spending cuts were achieved. Treasury Ministers' The statements amount to a shot across the bows of spending Ministers in the midst of crucial discussion about next year's

pending programme.

THE TREASURY has warned, to be discussed in a Cabinet meeting later this month, prob-

ably next week. Sir Geoffrey declared on television that governments around cuts in spending were a pre-condition for interest rate

Keen to display his knowledge of EEC matters after chairing the meeting which realigned the European Monetary System last weekend. Sir Geoffrey said last week's reduction in West German interest rates was due to Chancellor Helmut Schmidt's achievement in cutting £4hn from his country's borrowing requirement.

Even the Socialist government in France, he pointed out, announced a cut in public spending projects last week.

Public borrowing and spending for this year were roughly on target after allowing for the effects of the civil servants' dispute. The borrowing cuts made in the March budget had allowed UK interest rates to remain below the international average this summer before the rise during the last month.

Mr Brittan said he expected 1981-82 public borrowing to turn out around the Government's £10.5bn target.

Referring to the tight U.S. monetary policy, he said, "If you have the pressure from outside leading to higher interest rates, then it becomes all the more important not to do anything which domestically leads to further pressures."

He said the low point in the recession had now been reached. I'm notsuggesting some type of rosy boom-type expectation" -nevertheless a

Initial bids put in for spend-recovery in output was likely ing in 1982-83 by government next years and the downward departments amount to around movement in inflation would £5bn more than planned by continue in a "perceptible the Treasury. The matter is due way."

Chambers of Commerce urge £2bn expenditure

LOCAL CHAMBERS of Commerce this morning join the growing band of industrial and help companies climb out of the recession by authorising expen- restraint. ture on major public sector projects The Chamber wants £2bn

spent immediately on projects discounted because of his well- I long reach of American power. I telecommunications. They also

call for a more positive industrial strategy, a special low rate of interest for manufacturing political groups which are industry, lower energy costs, calling on the Government to tougher trade policies, and a "political consensu" on wage

The proposals are especially significant because they have been published on the eve of Continued on Back Page such as rail modernisation and Blighted hopes of a revival,

BL strike would hit new car

cisms at fringe meetings.

BY ARTHUR SMITH, MIDLANDS CORRESPONDENT

Citizens Advice Bureau report. strike by BL's 58,000 car workers could jeopardise a £200m in-vestment crucial to the future ment for the Allegro and Maxiof the motor industry.

The BL board has given approval to the LM11, the second car in the company's planned middle-range models, considered vital to the State concern's survival as a volumeproducer.

The go-ahead has been given to a £200m capital investment which will give a much-needed boost to the struggling motor equipment and components

Civil engineering work at Cowley, Oxford, the home of the new car, is about to get introduced. under way. Spending on the Much of the investment in new project will begin towards the facilities at Cowley will go into

connect supplies without going FEARS were mounting last end of this year, risin through the courts says a night that the threatened all-out peak in 1982 and 1983. FEARS were mounting last end of this year, rising to a robotics and advanced techno-The aim is to get the LM10,

into production within 12 months, ready for launch in February, 1983. BL's apposi-tion to Ford's Escort, it will be sold in all European markets. Output of the LM10 is due to reach 2,000 cars a week.

which would give an important base for components suppliers anxious to get into export mar-But within 12 months comes the conventional for-r-door saloon, which is expected to be

turned out at between 2,000 and 2,500 vehicles a week, when the various derivatives have been

logy to make the plant more automated than Longbridge, Birmingham, itself heralded as one of the most modern in

constituted a cry from the grass-

roots for an alternative policy.

to the defence of Mr H

cussion at the conference,

known personal antipathy to

Editorial comment, Page 12

Mrs Thatcher.

All these plans could be put at risk if workers at mass meetings fixed for Friday at all 30 union leaders' call for a strike in protest at BL's 3.8 per cent pay offer. BL has called national union

leaders to a meeting in London today in which details are likely to be announced of about 3,000 redundancies, involving planned closure of Coventry Engines, the Speke body-pressing plant near Liverpool, and several small factories.

A warning is likely to be Much of the investment in new given of the fragility of BL's Continued on Back Page

The FI's office equipment survey starts inside.

Olivetti's starts

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on our Copiers?

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Intel in big microprocessor deal

INTEL CORPORATION and terly results last week. Intel's Intel microsprocessor, which is development of microprocessors over the next 10 years.

the semi-conductor business. Intel is the world's fourth

(£448m). AMD ranks ninth in

In line with the difficulties

drop in net income from \$7m to As partners, rather than com- \$1m and a 16 per cent drop in petitors, AMD and Intel will sales for the quarter ending represent a major new force in September 27 to \$65m, from

The Intel-AMD agreement largest manufacturer of inte-grated circuit "chips" after could mark the beginning of a grated circuit "chips" after
Texas Instruments, Motorola
and National Semiconductor pany co-operation in the U.S. Sales last year were \$855m semi-conductor industry as American firms struggle to the world, with sales of over fend off increasing competition from Japan.

announced disappointing quar- already producing copies of the devices.

Advanced Micro Devices, two operating earnings showed a at the centre of this agreement, of the largest U.S. semi-conduct decline of 82 per cent for the two of them without licence The deal will also provide Intel with a badly needed U.S.

> designed microprocessors, and will be able to share in development of future product lines.

More significantly, AMD will alloy Intel access to its bipolar processing technology, a method of manufacturing chips which is increasingly attractive. This-The companies hope it will could give Intel an opening into much of the industry has suf-strengthen domestic suppliers, new markets for super-fast logic ferred this year, both companies Three Japanese companies are vircuits and telecommunications

tor manufacturers, have signed first nine months of this year from Intel. an extensive agreement to co- to \$25.5m from \$143.4m in the operate in the marketing and same period in 1980. AMD reported an S5 per cent

\$77m in 1980.

second source for its top-range of microprocessors. AMD will gain access to the substantial market for Intel-

Its product contributions to the deal will be some special peripheral parts that work alongside microprocessors.

ways at Tokyo's new airport. Storm cut the Simplon runnel rail link between Switzerland and Italy for several hours. Page 20 - CONTENTS Recession: blighted hopes Justinian: The birching

Northern Ireland: Fitz- Lombard: Peter Riddell on debate 13 the SDP 13 Gerald's crusade stirs Lcon Brittan: an inter- Editorial comment: Mrs view 4 Thatcher and UK econo-Management: patents sys-mic policy 12 tem under pressure ... 8 Technology: Fiat's plastic Survey: office

car 17 ment inset Men and Matters Money & Exchanges O'seea News Financial Diary Unit Trusts

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World Econ. Ind. World Stock Mkts. World Trade

ANNUAL STATEMENTS English Assoc.
Old Court Intl. ... INTERIM STATEMENTS

Unions in France start to criticise Mitterrand's policy

BY DAYID HOUSEGO IN PARIS

relations between Government and unions for the first time since the Socialists came to power in France five months

ago.
M Edward Maire, leader of the Socialist-dominated CFDT union, which has close links over the weekend of backsliding over pre-election pledges. He out inadequate rductions in th nuclear power programme, in implementing the proposed labour law and in defining workers' rights in indus-tries to be nationalised.

At the giant Renault plant at Billancourt, in Paris, a lockout of 4,000 workers by management start today—an embarrassing dispute for the Government with the debate in the National Assembly on the nationalisation bill opening tomorrow. Minis-ters have often held up Renault as a model of what a nation-alised company should be. Last week M Georges Seguy,

head of the Communist-dominated CGT union—the largest in the country — warned that rumours of a return to an incomes policy were of serious

concern to workers.

STRAINS are appearing in devaluation the Government has adopted a three-pronged pro-gramme of selective price controls, wage restraint, and the postponing of budgeted public expenditure in an effort to bring down inflation from 14 per cent to 10 per cent by the end of 1982.

> None of these incidents points as yet to any serious disruption the "industrial peace" that has characterised President François Mitterrand's early months in office.

In part they are due to internal disputes within the unions as to what their rela-tionship should be to a government of the left. They also reflect impatience — as demon-strated in recent brush-fire strikes in a number of public sector companies - at what from the shop floor seems the slow pace of change in management-labour relations

Their importance at the moment is that the Government is critically dependent on getting the unions to accept what amounts to an incomes policy if it is to prevent its initial expansionary programme from

Assembly battle ahead on nationalisation Bill

THE BATTLE over the French former President Giscardo Government's nationalisation d'Estaing is a member and from plans shifts to the National Assembly tomorrow with the opening of what is expected to be a stormy debate lasting at two weeks over the nationalisation Bill.

The opposition is believed to have beaten all parliamentary records in tabling 800 amendments to the measure which provides for the takeover of five major industrial groups and 36

They have also announced

appeal. The Government does not believe the council would risk seriously challenging the will of the elected assembly.

been embarrassed by its own radical supporters who were influential last week, through the special parliamentary commission studying the text of the Bill, for removing from its an important clause. Under this the Government would have returned to the private sector the that they will later refer the domestic industrial subsidiaries law to the Constitutional Coun- of the Parihas and Indosuez cil-the 10-man body of which banking and investment groups.



Dutch policy statement delayed

THE DUTCH Government has its programme planned for today, because Ministers have been unable to reach agree-

The delay is seen as a blow to the credibility of the fourweek-old coalition of Mr Dries van Agt which was sworn in on September 11 after more than three months negotia-

The three coalition members, Mr van Agt's Christian Democrats, Labour and Democrats 66 have differing views on economic policy and are fundamentally opposed on the issue of nuclear arms.

After a week of conflicting reports over whether the 15man Cabinet had reached agreement the Government announced on Saturday that the reading of the policy statement to Parliament had been postponed indefinitely. The statement would outline the policy proposals for the coming four years.

A compromise has been reached on financial questions and defence issues but there has been no agreement on how spending cuts should be spread over the different ministries, the Government

Swedish trade diplomat, should

accepted.

Egypt bids President Sadat a quiet farewell

THE FUNERAL of President Anwar Sadat, a tightly circum-scribed affair dominated by preoccupations about security, was in marked contrast to that of his predecessor. Mass hysteria ruled at the obsequies for Gamal Abdul Nasser just over 11 years

ago. On that occasion millions of Egyptians poured into Cairo from all over the country. Every roof-top, balcony, statue and palm tree was smothered with

Anwar Sadat's funeral on Saturday could hardly have been more different. It may have been because more people now have television sets than in September 1970 and preferred to weep at home or in cafés than in the streets. It may have been because of the security precau-tions which meant that the largest civilian contingent at the

SYRIA and Libya are intensifying their collaboration in opposition to the continuation of the late President Sadat's policies by his successors in Egypt, Louis Fares reports from Damascus.

President Hafez al-Assad of Syria held consultations at the weekend with Mr Ali Abdesalam Treiki, Libyan special envoy, at his summer residence at Lattakia. Also present was Mr Farank al-Chare, Syrian Deputy Foreign Minister, and Mr Abdesalam al-Khavval, head of the Libyan diplomatic mission in

funeral was made up of the 700 foreign hemmed in by hundreds of policemen. It may, too, have been the Courban Bairam According to Arab diplomats, both the Syrian and Libyan regimes consider the death of Mr Sadat as only "the first step towards bringing Egypt back into the Arab

One matter of immediate concern is the diplomatic effort of the U.S. to ensure that Mr. Hosul Mubarak, Mr Sadat's likely successor, continues the peace negotiations process with Israel. Other diplomats say that

before Mr Sadat's death Syria undertook to send an entire

genuine affection for the late

festival which kept people at home, or it may even have been intimidation by Moslem ex-tremists to damp down some

armoured division to Libya. According to them, Colonel Gadaffi's regime insisted that the men alone need come as the equipment required was already in Libya

Meanwille General Sandedin Shazi, the crited former Egyptian chief of staff, was quoted in a Lebanese newspaper yesterday as saying that his opposition group had decided to attack the new Cairo Government for carrying on Mr Sadar's policies Assassination of Mr Mrharak could not be ruled Mubarak could not be ruled

But the fact remains that apart from the touching last moments at the Tomb of the and a feebly staged demonstra-tion of grief at a cross roads for the buses of journalists on their way to the parade ground. The late President's passing has been treated with indifference

At moments the funeral verged on the absurd with the more distinguished dignitaries, three former U.S. Presidents in

cluded, almost trotting to keep up with the gun carriage. The ceremony was in sharp even poignant contrast, with me last month when he thanked the Egyptian people for their 9845 per cent endorsement by referendum of his measures to clamp down on Mosiem ex-tremists — the same section of the community which may well have been behind his death.

\$34 unified

Opec price

in prospect

of the Organisation of Petro

leum Exporting Countries ex

cept Venezuela are now willing

to adopt a unified reference price of \$34 a barrel; according

to the Middle East Economic

In the wake of the recent

whose decisions there is no

The Government has already

Commercial borrowing 'is necessary,' Delhi told

THE RESRVE Bank of India moderate rate of economic has advised the Government to explore foreign commercial borrowing and other forms of roal financing to help erate "enduring changes" domestic manufacturing

The Reserve Bank, in its annual report for the year which ended in June 1981, admitted that foreign commercial borrowing would be ex-pensive. But it says it is necessary because of uncertainties over the flow of con-

The mounting price of oil imports has pushed India's visible trade balance deep into the red, resulting in a serious drain of foreign exchange threat to growth targets for the

current five-year economic plan. The Reserve Bank forecasts that India's balance of payments position is likely to worsen over the next two years. As the oil import bill is likely to continue rising, other imports will incessional assistance and because crease rapidly as Indian Solidarity has threatened a of the need to maintain a industry buys new capital goods short national strike if the

Cabinet invites Solidarity to discuss prices policy

suggested the setting-up of a mixed commission with Solidarity and other unlons to dicuss prices policy, market supplies and the rationing sys-

demands by Solidarity at the union's congress in Gdansk last wek that the authorities should freeze prices of basic goods and authorise payment of cost-of-living rises to compensate for prices that have already in-

its prices policy for review by

The Government offer suggests that it is ready to talk with Solidarity. The union response could be forthcoming after a meeting of the Solidarity praesidium in Gdansk today. Responsibility for the union's economic policy has been placed

in the hands of Mr Grzegora Palka, a 31-year-old scientist from Lodz who came to the notice of delegates at the congress when he proposed radical

Survey. The journal said yesterday that some weighty open quarters were optimistic that a ministerial meeting might be

arranged before the end of the month to adopt the unified price It said the frend towards a unified price became more evider after Iraq's announcement earlier in the week that it would reduce its marker price by \$2. to \$34 a barrel. The Iraq rsion was retroactive

The journal added that, apart from final endorsement by Venezuela, it was also necessary

to attend any further meetings unless they are firmly persuaded that the desired result is absolutely in the bag, according

in the ruling Social Democratic Party (SPD), fizzled out at the protests had blown up in scarcely in evidence. Berlin and other cities. There was anxiety too that weekend. It turned into a mild

heralded peace demonstration, which has aggravated the split outing for left-wing splinter groups and a commercial coup for fast food entrepreneurs. The Government had

repeatedly voiced worries about the demonstration, the largest popular rally since the war.

Officials feared last week the in Bonn proved that these fears of both superpowers 250,000 demonstrators could were largely misplaced. There turn violent, much as smaller were only a few violent out-

Peaceful peace protest relieves Bonn

the many Social Democrats taking part could undermine the credibility of the Government by specifically attacking Bonn's decision to station new U.S. missiles in Germany. But Saturday's demonstration

Herr Erhard Eppler, a left wing SPD national executive

member, eased the fears of the

Nonetheless the thrust of the were only a few violent out-rally was that the German bursts and the police were Government should urgently reconsider the stationing of new Cruise and Pershing missiles on German soil

This message was diffuted by Bonn Government by making a the inclusion of every possible surprisingly even-handed attack radical complaint against the Government, ranging from the West Germany, he said, "is purity of bread to the saie of

to convince the Saudis that an acceptable deal, along the lines proposed by them in May and again in August, was really Saudi Arabia will not agree

WORLD TRADE NEWS

Japan 'will overtake European car output by 1990'

BY KENNETH GOODING, MOTOR INDUSTRY CORRESPONDENT

TOKYO-Fujitsu Fanue of With more than 50 per cent of

Japan and Siemens of West Ger- the capitalisation to be put up

many are to set up a fully auto- by the leading Japanese indus-

produce automatic programming ture will probably start produc-systems for numerial control tion by June or July next year. machine tools, Fujitsu said at Details of the project have yet

ne weekend. to be worked out, but Fujitsu The companies will set up a said there would be only a

joint group called Fanuc Mecha- limited number of computer

tronics to operate the projected operators working in the plant.

Agencies

World Economic Indicators

FOREIGN EXCHANGE RESERVES

(U.S.Sm)

10,751

44,618

23,194

24,245

7,616

75.870

13,609 9.842

43,405

22.636

23,967

7,807

76,472

JAPANESE car output will resources. So about \$55bn will overtake that in Europe by be required from outside 1990, according to a report from sources. the Chase Manhattan Bank.

But if there are further interruptions in oil supplies and a sharper-than-expected increase in the real price of oil the Japanese would produce more cars than the Europeans from 1984 onwards.

The report points out that in 1979 European car output was 10.3m against 6.6m in Japan. It suggests that by 1984 the European production will be 10.3m while the Japanese output will be up to 9.5m and by 1989 the two will be neck and neck at 11.5m and 11.3m respectively. Over the same period the Chase forecasters see the Japanese share of the European market moving up from 10 to 17

Meanwhile the European share of car markets outside Europe, the U.S. and Japan is predicted to fall from 20.6 per cent to 13.5 per cent.
The European producers are

expected to spend \$80bn on capital projects in the next ten 30 per cent of the funds can Manhattan Plaza, New York be generated from internal 10081. \$1,000.

mated plant in Luxembourg to

the weekend.

UK

U.S. W. Germany

France

italy

Belgium

Netherlands

If there are supply problems and high price increases for oil Supported Export Credit, he is waiting for endersement from national capitals on the broad measure of agreement reached of the delayed recovery of on Consensus reform at a meetworld car demand. ing in Paris last week.

for the European companies as a group will force them to attempt greater consolidation so as to achieve greater economies of scale, the banks

an average annual growth rate of 1.1 per cent between 1973 and 1979, will slow to zero. In contrast, major production

Japanese manufacturers can expect a 4.5 per cent annual growth rate, down from 6.8 per cent. according to Chase.
"Structural change in the

the Europeans could face substantial cash flow problems from the early 1980s because The bleak financial outlook

European car output, showing

growth is expected in the Come-con countries and India, with a joint average growth of 7.8 per cent a year between 1979 and

Global Automotive Industry. years and Chase suggests that Energy Economics Division, it is unlikely that more than Chase Manhattan Bank, 1, Chase

trial robot maker, the joint ven-

10,899

46,068

27,201

24.102

8.032

14,456

5,642

45,686

25,333

13,859

9,985

22.012

7,211

with its mandate exhausted. But if the Japanese Government needs more time to make up its mind, then it will not Intermediate find the Tuesday deadline rigid.

Japan stands apart because

its domestic interest rates are

Only Japan stood aside from

that broad agreement, and its

delegiation returned to Tokyo

lower than those generally pre-vailing in the West. But the high interest rates in the West have made the pattern of Consensus interest rates for export credits artificially low, only sustainable with the extensive use of subsidies. In turn, heavy use of subsi-

dies, especially in France and the UK to finance export credits, along with the mixing of aid with commercial credits and, on the U.S. side, the lengthening of export credit maturities beyond the Con-sensus meximum, have all helped to erode the trading disciplines the Consensus was Fujitsu-Siemens plant meant to enforce.

The pervasive feeling that if changes were not made to the Consensus the agreement would

HR AKEL WALLEN, the was apparent in Paris last week, until market rates fall, these saw the whole question as one forced to try and meet the US The EEC, U.S. and ten other proposals represent a belated of competitiveness. It could not without exacerbating difficulties know tomorrow whether compromise proposals to resolve temperarily the nagging international dispute over export the developing world. They fell June. 1980, was acknowledged in behind an EEC proposal to be in need of reform.

The second industrialised nations agreed to effort to restore order to a regree on nighter therest rates for itself without an increase temperarily the nagging international dispute over export the developing world. They fell June. 1980, was acknowledged in behind an EEC proposal to be in need of reform.

Export-Import Bank of Japan. know tomorrow whether com- industrialised nations agreed to effort to restore order to a agree on higher interest rates with Japan.

lifts the minimum Consensus port for the compromise, there As chairman of the group of interest rates from the 7.5-8.75 is a substantial shifting of posi-22 nations in the Consensus or, more formally, the Arrangeper cent range to 10.0-11.25 per tious among the major parties ment on Guidelines for Officially

o provides that low interest Japan. rate currencies-mainly the yen

And behind the general supinvolved-the U.S., the EEC and

Although Japan prevented -be loaned at a minimum of full agreement in Paris, its dele-

CONSENSUS INTEREST RATES, % — THE COMPROMISE PROPOSAL

(Present interest rates in parentheses) 2.5 years 5-8.5 years 8.5-10 years Country category: Relatively rich 11.0 (8.5) 11.25 (8.75) 10.5 (8.0) 11.0 (8.5)

Relatively poor 10.0 (7.5) 10.0 (7.75) The Consensus countries are Australia, Austria, Cauada, the EEC, Finland, Japan, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland and the U.S.

present system which does not provide for change; • specifies that, where aid is

used in a finance package, other countries be warned when that aid constitutes between 15 and 25 per cent of the total sum prior notification system above 15 per cent. Although the level of sub-

9.25 per cent for that portion of gation conceded a significant a credit which is officially supprinciple. Its basic position was that because its long term prime e acknowledges that yearly rate is 8.5 per cent and the yen reviews of the Consensus is a hard currency, its official interest rates should replace the leading should continue at that lending should continue at that level. EEC suggestions that it charge a premium on top were seen as discriminatory.

But the delegation accepted the principle, although it would than half a percentage point. If Tokyo can accept a further 0.25, or 0.75 per cent in full, then the package remains intact. If not the future of the consensus will be in doubt. simply come apart lies behind sidies used to support export the degree of compromise which credits will scarcely diminish

The EEC, on the other hand,

finance packages. But Japan will still be able to offer packages at 8.5 per cent through its commercial banks, so its competitiveness is not

necessarily diminished. from months ago and abandoned as politically impracticable.

But the U.S. has consistently been sympathetic to the Japanese view, and its apparent failure at the negotiating table to transfer the sympathy to full support was a major reason for

the isolation of Japan.

The U.S., indeed, has abandoned hopes of a broad-brush schution to export credit difficulties. Its handling of the Paris meeting suggested that it accepts that the basic aim of reducing all subsidies can only be reached gradually.

It would have liked an increase of four percentage points in the pattern of Consensus interst rates, but settled for just over half of that. It would have liked a system for automatic change in the rates, depending on market move-ments, but settled for the uncertainties of annual review. This relaxation of the U.S. position—a contrast to the rhetoric of the past year—was predictable, but nonetheless posed a problem for the EEC, which was again in February.

The EEC's demand for a 9.25 per cent minimum interest rate on official yen lending, or 0.75 of a percentage point underwhich frequently provides 60 neath the Consensus minimum, per cent of the funds for yen was an implicit acknowledgement that Japan is a special

But the EEC also conceded more to the U.S. desire for a major increase in interest rates than its delegation had been Japan's basic position at the authorised to offer. It had talks-that export credits rates started from the position of a be individually settled by 2.0-2.5 percentage points rise domestic market rates—was the but gave in on 2.25 percentage nosition which the U.S. started points for the poorest countries. points for the poorest countries. where much of the capital business is presently being done.

This would not have been possible without a change in the French attitude. France has hitherto, been rigid in wishing to stick to low interest rates, but its position began to relax-slightly after the election of President Mitterand.

Further evidence of this relaxation was evident on the adopted proposal for the notifi-cation of mixed credit deals. France has been the pioneer and most active user ci mixed credits and it had been doing a major part of its mixed credit business in packages where the grant element was between 15

and 25 per cent. But all of these shifts in position have bought only breathing space. If Japan accepts the premium on yen lending it will only last for rix months, after which the whole

Paul Cheeseright explains the role of Japan in the world export credits dispute | Market open Moving to the centre of the delicate balance in Chile for cotton textiles

By Anthony Moreton

OPPORTUNITIES TO expand sales of British cofton textiles, especially among highquality items such as shirts, dresses and household linens, exist in Chile.

This is the main finding of a report prepared by Mr Brace Taylor and Mr Malcolm Irving of the Shirley Consult ing Group after a visit to that country earlier this year.

The visit was sponsored by ten UK fextile concerns and was backed fluencially by the Government. It was con-sidered sufficiently successful for the two to be plaining a similar trip to Venezuela early next year.

British woollen textiles are strongly represented in Chile, but the cotton industry is much weaker. Yet Chile is by no means a low-income developing country, in Latin America it rates higher than near neighbours such as Colombia, Peru and Ecuador, and its per capita income is well above that of most African states.

Furthermore it is a market which has over the past five or six years liberalised much or six years liberalised much of its trade and imports now account for about 35 per cent of the textiles market. In apparel, domestic and industrial talaties alone, furnover this year in the country is expected to be about \$150m.

The Shirley Consulting Group feam, dridts report to the British Textile Employers' Association, Believes, there is

the British Tertile Employers' Association, balieyes there is still a place in British products and identified at least 50 instances to their ten suonsors of business openings stricing from their own fortnightlong visit.

The Shirley Consulting Group is a Manchester based research institute funded by private sector firms, though it undertakes consulting and other work for the public sector as well.

other work for the public sector as well.

6 Lloyds Bank International is making available a \$10m (£5.2m) line of credit to the Bank of London, and South America in Argentina to finance the purchase of JUK capital goods and services the credit fine is supported by the Expert Credits Guarantee Repartment.

SHIPPING REPORT

Tanker trade business still weak

BY LYNTON McLAIN, TRANSPORT CORRESPONDENT

Brokers said at the weekend year the state-financed Society

week. In the tanker trades business remained weak apart from a slightly greater demand for very large and ultra large crude carriers out of the Gulf. However, despite the rise in demand for these larger vessels, the tanker market in general major factor likely to move the nuclear power in October 1968. remained in an impasse. The market substantially. assassination of President Sadat On the sale and purchase market, the British fiag bulk and suggestions by brokers that market, the German nuclear carrier Bennevis, 20,278 dead-Suez Canal traffic could be dispowered freighter Otto Hahn weight tonnes, has been sold to rupted as a result had no impact was reported to be ready to be Greek buyers for \$4.25m. Few on the demand for vessels.

MODERATE TRADING in the of freight rates improving. A The vessel has not been used dry cargo markets continued last considerable number of vessels commercially since early 1979 are under-used at the moment, with others employed in slowsteaming and others as floating storage capacity.

In the dry cargo trades, brokers suggested that there was little indication of any and made its first voyage under and made its first voyage under suggested that there was little indication of any and made its first voyage under the country of the country

because of the high operating

Elsewhere on the second-hand put on sale by the end of the year tanker sales materialised last week, however, in contrast to that there was little prospect of Marine Nuclear Propulsion, the previous week.

UK project for Nairobi

BY OUR WORLD TRADE STAFF

ZAKHEM Construction Ser- is worth £2.4m and is the vices, the London unit of second won by the company in Zakhem International Construction the USSR. Zakhem International Construction which has origins in Beirut, has won a \$26m (£13.5m) contract for pipelines to be installed during the second phase of the Nairobi City Council's Chanai-Kimakia water project.

Although the group's operation of Moscow.

project will come from the UK. lations used to de-oil aluminium.

Although the group's operate of Moscow.

Although the group's operate of Moscow.

Brytian British

East and Africa material and Chamber of Commerce opens manpower for the Kenyan for business in Regent Street London, today The Chamber alms to foster links between

O ND Engineering of Surbiton, alms to foster links between Surrey, is providing Metal-companies in the two countries lurgimport of the Soviet Union and to provide lines of comwith seven dryer-cooler instal-munication under the official level. More than 60 companies and brass swarf. The contract bave applied to join-

in consumer demand for credit

By David Churchil. Consumer Affairs Correspondent

TOP TO A STATE OF THE STATE OF

Unifia

c price

A SHARP fall in the demand tember is revealed today by the

United Association for the Protection of Trade, Britain's largest credit reference agency. The association area greener down compared with the same month last year.

The fall is further evidence of a slump to education

of a slump to consumer con-fidence caused by the continuing recession, rising inflation and :interest-rates:

Dr Brian Balley, the association's directorgeneral, points out that while September is traditionally a relatively lowspending month : 2 9 per cent drop indicates that consumer confidence is still very depressed."

The only retailers reporting an increase in credit applica-tions during the month were those supplying home heating appliances and central heating

The biggest falls in credit demand were in the Midlands and Scotland. Demand in both areas was some 17 per cent down on the same month last year. Northern Ireland continued to maintain a buoyant demand with applications run-ning some 10 per cent higher than last year.

Meanwhile, the John Lewis department stores group appears to be doing better than many other retailers. It reports that sales in the week ending October 3 were some 12.2 per cent above the corresponding week last year. This is also above its sales target of a 10.7 per cent increase for the half year. However, sales in the past nine weeks are only 8.3 per cent above last year's levels.

Chemical industry loses up to 750 jobs

BP Chemicals is to shed 250. ichs at its Grangemouth petrochemicals complex in Scotland. The cuts will be made over the next 15 months, it is hoped through natural wastage.

Meanwhile, Imperial Chemical Industries has again warned that it plans to cut the work-force at Hilf House works, Thornton, near Blackpool, by about 20 per cent by 1983-84 involving between 450 and 500 johs, mainly through early retirement natural wastage and voluntary redundancies.

Loss of image

NEARLY 70 per cent of the 150 | helicopter programmes. NEARLY TO per cent of the 100 I delicopter programmes.

In European A-300 and A-310 companies taking part 11122 Under a deal between the European Airbuses won so far survey feel industry's public UK and U.S. governments, by British Aerospace now eximage is worse now than 10 whoreby the RAF bought 33 ceeds £650b, covering 532 air-years ago. However, only 16 Boeing Chinook helicopters craft. By mid-September, 179 sets of relations officer. It was felt by required to give British industry's transfers worth \$60m over 10 delivered from British Aerospace. successes were ignored or played down and by 84 per cent that the Press concentrated too. much on bad news.

Scottish rates move

MR GEORGE Younger, the Secretary of State for Scotland, is to seek powers to force Scottish local councils to hold referendums if the Govern-ment considers their proposed rate rises excessive.

Ferranti move

FERRANTI is expected to start selling large electronic private setting targe electronic private automatic branch exchanges (PAEXs) by the end of this year. The equipment is expected to have been developed by General Telephone and Electronics (GTE) of the U.S.

Societies' denial

THE Building Societies Association denied over the weekend reports that the smaller members had argued for a 15 per cent mortgage rate instead of the 15 per cent finally agreed.

Sharp drop | Regional policy blamed for dividing country

BY ANTHONY MORETON, REGIONAL AFFAIRS EDITOR

BRITAIN'S regional financial senior civil servant who once helped administer it:

In a monograph from the Institute of Economic Affairs, Mr J. H. McEnery says that regional policy has helped to perpetrate the division between the industrial north and the

Service-based south.
Since the war, the aim had been to reverse the trend of the 1930s by encouraging manu- £440m a year. facturing companies move to the north of England, Ulster, parts of Scotland and parts of Wales. By the 1970s however, the picture had changed and the growth was in the service sec-

Official policy reacted too slowly to counteract this. Mr McEnery believes, partly be-cause it thought manufacturing investment was a desirable end in itself and service industries less important.

tor, mostly in the south.

Mr McEnery was in a good position to observe what he calls the "sheer diagnostic inertia"

because he was for four yearspolicy over the past 25 years from 1972—regional director is questioned today by a former for the Department of Industry's Yorkshire and Humberside region.

> Mr McEnery's solution is to regional development grants—22 per cent towards new buildings and new machinery in the special development areas and 15 per cent in the development areas
> —"as soon as possible." They

> Selective assistance, which can be given in addition to the mandatory grants, should be confined to small companies or to projects that would bring a company's headquarters to the area concerned.

Mr McEnery believes one major post-war problem has been the concentration of company beadquarters, and bence decision-making, around London. He says these should be encouraged to move out of London, starting with the nationalised industries.

port subsidies in the south east -probably amounting to about £150m a year-since these tended to cushion workers in offices, that might be better located elsewhere.

When it comes to incoming foreign investment, Mr McEnery would only support that which brought a complete head-quarters unit with it—and only the goods subsequently produced were neither price sensiare currently running at about tive nor already manufactured in Britain.

> A short-term boost for the regions might be given in cash grants for new office buildings. A policy such as this, he believes, would "start to heal the split between the two nations and make for a more prosperous and stable Britain. Manufacturing Two Nations

The sociological trap created by the bias of British regional policy against service indus try. By J. H. McEnery. Insti Economic Affairs Monograph Rescarch

Tinplate workers seek output increase

BY HAZEL DUFFY, INDUSTRIAL CORRESPONDENT

THE TINPLATE division of annual rate of 800,000 tonnes British Steel Corporation has against sales forecasts of 850,000 returned to profit but some tonnes. Total capacity is 925,000 workers claim this could be higher if the plant loading pattern were changed.

The profit, before interest and tax, in the five months to the end of September was £2.2m, which divisional management admits is less than budgeted for. The management says adjustment to the new work schedules took longer than expected, while demand for timplate remains depressed.

tonnes. Two years ago it was more than 1m tonnes.

In a letter to Mr Ian Mac-Gregor, BSC chairman, the Velindre workforce claims the plant's potential profit is £10m to £20m a year since the manning levels have been reduced by two-thirds. The recent letter to all

employees from Mr MacGregor stated: "This year we can only work on the basis of 'something The three South Wales works for something"." In reply, the at Ebbw Vale, Trostre and workforce argues that some be allowe Velindre, are producing at an thing must be put into Velindre.

"We ask for an increase in production to increase profits," it It claims that Ebbw Vale.

which has invested £57m in tinplate, is still losing money. Management says the plant "has made a lot of progress."

Velindre also claims it is

being supplied will steel coil that is too small and inconsistent in quality, but in spite of the problems, customers still The letter goes on: "In-

competent and anagement and meddling politicians must not be allowed to mar our suc-

BNOC chief hopes for dearer Saudi oil

By Martin Dickson, Energy Correspondent

Mr Philip Shelbourne, chairman of the state-owned British National Oil Corporation, says he hopes Saudi Arabia will increase the price of its oil from \$32 to \$34 a

Such a move would almost certainly mean an increase in the price of North Sea crude —of which BNOC is the major trader—from \$35 a barrel to about \$37.

Mr Shelbourne, writing in the latest issue of Coal and Energy Quarterly, published today, says a correct balance in the pricing of oil is critical to ensure there is stability in the North Sea.

The price of oil must not be too low, as this causes wastage of a valuable non-renewable

Although he agrees in principle with the Depart-ment of Energy that the peak UK oil production period expected in the mid-1980s should be flattened, "this must not be done at the expense of exploration and development."

The Government has ordered BNOC to postpone by two years the start of produc tion from its Clyde field, which will now come into operation in 1987.

The Government's plan to introduce private equity into BNOC's exploration and production activities should welcomed as it will free the corporation from day-to-day control by the Treasury. In his article he also attacks

the Government's North Sea taxation policy—and how it is spending oil revenues.

companies to invest in exploration and development, it is important to have the right balance in taxation of UK continental shelf oil."

International Harvester to askbankers for support package

BY HAZEL DUFFY, INDUSTRIAL CORRESPONDENT

INTERNATIONAL Harvester agreed in the U.S., except that new support package.

This follows the renegotiation of the first support package by the lead banks of International Harvester in the U.S., for which agreement is still being sought among the many smaller banks that have loans outstanding to the group.

The bankers of IH Great Britain will be asked to commit themselves to substantial financing of the agricultural equipment group over the next two years. Most of IH's borrowings are in the form of overdrafts which it is hoped will be refinanced as two year loans. About 20 manks are involved. including Barclays and Midland.

in Britain expects to meet its it is not likely to include an land, this week to negotiate a it include a provision for the banks to take stakes in the company's equity, as is being done in the U.S., as all of IH Great Britain's equity is held the past two years, particularly

by the parent company. IH Great Britain will record a big loss for the current financial year which ends on October 31. Last year it lost £12m, and the current year's losses will exceed this.

The company plans a return to profit next year. It last made a profit in 1979 of 53.3m. The closure of IH's head office end of this month will be a major element in the plan to return to profit.

The lease on the offices, which The package being requested 1H has occupied since 1926, is by IH is similar in many up for sale at £2m for the than under the first financial respects to that which has been remainder of the 99-year lease. package.

A small head office staff has been moved to Doncaster, where lead bankers, Barelays and Mid- interest rate subsidy. Nor can IH has a large factory and

office space.
International markets for agricultural equipment have been extremely depressed in

in Norfth America. of its British production, much of it to North America.

In Britain, it ranks third, after Ford and Massey-Ferguson and claims to have increased its share of the tractor market from below 12 per cent to 14

per cent in the past year.
The financial package being sought by LH Great Britain will be split equally between the credit corporation and the manufacturing operation. It is looking for greater security

Britain 'in bank profit leaders'

BY OUR BANKING CORRESPONDENT

ONLY HALF of the world's top 150 banks are making a profit, if allowance is made for infaand differing capita structures, according to IECA Banking Analysis, a London-

based research company. British and U.S. banks show up well in the analysis of comparative banking profitability. But the majority of Japanese. French and Italian banks show negative returns. Dutch and Swiss banks generate real returns. Only one bank in Canada fails to make the grade. In terms of IBCA's analysis

of real profitability, the five most profitable banks in the world are: Australia and New Zealand Banking Corporation, assets ratio of 4 per cent. Bank of Scotland, Hongkong IBCA Banking Analysis, 2-12, first such senior appel and Shanghai Banking Corpora- Wilson Street, London EC2M a UK clearing bank.

im an

INSURANCE

Wales.

To measure real profitability. IBCA has taken each bank's return on equity and adjusted for the domestic rates of inflation and differing equity/assets ratios.

Some banks, such as the state-owned French banks, for example, have considerably less courty capital than other banks. This gives them an advantage. To nut all banks on the same footing comparative purposes, IBCA therefore has

assumed that all the banks observe an identical equity/

tion, Texas Commerce Banc- 2TE, and P.O Box 428, Lenor shares, and Bank of New South Hill Station, New York, NY

A THE COOPERATIVE BANK is boosting the rates of interest offerred to personal customers placing large sums with the bank. Depositors placing £8.000 or more for a year will receive a fixed rate of 16.6 per cent. For six months the rate of interest is 16 per cent,

O MIDLAND BANK has appointed Mr Brian Allison, an assistant general manager, to co-ordinate the bank's approach to personal international payments systems ranging from cash dispensers to traveller's cheques and credit cards.

This is believed to be the first such senior appointment in

Boeing praise for British suppliers

BY MICHAEL DONNE, AEROSPACE CORRESPONDENT

SEVERAL UK companies have companies

necessarily on helicopter com-

ponents and equipment.
So far, Boeing has committed over \$37m worth of business to tenders out for about another \$50m worth. Of the companies involved,

eight have given "outstanding" service to Boeing, delivering quality products on time or ahead of schedule at competi-

FPT Industries, Midcast Numerical Controls (Wales), Twyford Moors (Aircraft and Engineering) and L. A. Rum-

from fuel pods and cells to aircraft seats, especially for the BV-234; commercial variant of the Chinook which is being bought by British Airways

The eight are Lucas Aerospace, Metair Aircraft Equip-Westland Helicopters, British Hovercraft Corporation,

bold.

The products involved range

In addition to the direct financial benefits of working with Boeing, these and other

won awards from Boeing Vertol, through exchange of engineerpart of the US Bosing group, ing and technical know-how.
as "suppliers of excellence" to The total value of orders for the group's civil and military wings and other components for the European A-300 and A-310

try ofders worth \$60m over 10 delivered from British Aero years, primarily though not space's Chester factory to Airbus Industrie in Toulouse. four wing-sets a month, the total should reach nearly 200 by Christmas. It is planned to increase Airbus output to eight

aircraft a month by 1984. Current Airbus orders and options stand at 471 aircraft, but the group has placed forward contracts for wings with British Aerospace, which explains the figure of 532 air-craft covered by wing-orders to

Air Ecosse, the Aberdeen-based airline, has placed an order worth £8m for five Shorts SD-330 commuter airliners for use on its Scottish air routes.
This brings total orders for Shorts SD-330 30-seat commuter

airliners to over 100, of which over 70 have been delivered Deliveries to Air Ecosse start Jetsave, the transatlantic low-fares operator, is to offer a new cheap UK-Canada return rate of £148 next summer, compared

with the cheapest 1981 fare of

BROKER IM AN IM AN INSURANCE INSURANCE BROKER BROKER IM AN im an INSURANCE INSURANCE BROKER INSURANCE IM AN IM AN INSURANCE INSURANCE **BROKER** BROKER

This advirtisement is issued in compliance with the requirements of the Council of The Stock Exchange and is not an invitation to any persuit of the Company.

subscribe for ar to purchase any share capital of the Company.

R.P. Martin & Co. Limited

SHARE CAPITAL

Authorised - Ordinary Shares of 5p each £550,000

Issued and to be issued fully paid

The Merger between R. P. Martin & Co. Limited (the "Company") and Bierbaum & Co. OHG and subsidiary partnerships and affiliated companies was approved by the shareholders of the Company on 14th August, 1981 and is expected to be completed on 14th October, 1981. The enlarged share capital is stated above on the basis that the £1,300,000 nominal of 1 per cent. Convertible Unsecured Loan Stock 1999 (the "Convertible Stock") issued to the Partners of Bierbaum & Co. OHG is fully converted.

Application has been made to the Council of The Stock Exchange for the Ordinary Shares of the Company already in issue to be re-admitted to the Official List and. subject to Completion of the Merger and to conversion of the Convertible Stock and allotment of the Ordinary Shares resulting from such conversion, for the Ordinary Shares so allotted to be admitted to the Official List. It is anticipated that dealings in the Ordinary Shares of the Company already in issue will re-commence on Thursday, 15th October, 1981.

Particulars of the Company are available in the Extel Statistical Service and copies of such particulars may be obtained during business hours on any weekday (Saturdays and public holidays excepted) up to and including 26th October, 1981 from:-

MMG Limited 37 Upper Grosvenor Street, London WIX 9PE

Singer & Friedlander Limited 20 Cannon Street.
London EC4M 6XE

Hoare Govett Limited Heron House, 319/325 High Holborn, London WCIV 7PB

27 Throgmorton Street. London EC2N 2AN

Which man is telling the truth?

Until this year, anyone could pretend to be an insurance broker. Some were experienced, some were not. Some were not bothered as long as they made

But from December this year, no-one in the UK will be able to describe himself as an insurance broker unless he is formally registered, and subscribes to a carefully-worded code of conduct.

We can show you the list of some of the brokers in your area. (Or you can write to the Insurance Brokers Registration Council)

WHY WE WELCOME THE CHANGE

As brokers know, we specialise in personal assurance: your pension plan; tax-efficient, flexible savings plans; protection for your family. (And because we've been specialising for over 140 years, we're among the best in the coun-

try at what we do.)
We welcome the change because, not only do we value people more highly than things,



we want you to be in the safe hands of registered brokers or qualified professionals.

If you have problems replacing your valuables after a breakin, that's unfortunate. But if you have problems in drawing your pension, or if your family has problems in collecting your life assurance should anything hap-

pen to you, that could be tragic.
If in doubt, write to us. We have the list. The Scottish Provident Institution, Head Office, PO Box 58, 6 St. Andrew Square, Edinburgh EH22YA.

We value people more highly than things.

Alember of the Association of Scottish Lile Offices.

Number of the Association

ISSUE BY TENDER OF £1,000,000,000

15 per cent EXCHEQUER STOCK, 1997

MINIMUM TENDER PRICE £95.50 PER CENT

PAYABLE AS FOLLOWS: On Friday, 13th November 1981 Balance of purchase money INTEREST PAYABLE HALF-YEARLY ON

27th APRIL AND 27th OCTOBER

This Stock is an investment talling within Part II of the first Schedula to Trustee Investments Act 1961. Application has been made to the Council of Stock Exchange for the Stock to be admitted to the Official List. THE GOVERNOR AND COMPANY OF THE BANK OF ENGLAND STORES

The principal of and interest on the Stock will be a charge on the National Fund, with recourse to the Consolidated Fund of the United Kingdon The Stock will be repaid at par on 27th October 1997.

The Stock will be registered at the Bank of England or at the Bank of Ireland. Bellast, and will be transferable, in multiples of one new panny, by instrument in writing in accordance with the Stock Transfer Act 1963. Transfers will be free of stemp duty.

Interest will be payable half-yearly on 27th April and 27th October. Income tex will be deducted from payments of more than 25 per annum. Interest warrants will be transmitted by post. The first payment will be made on 27th April 1982 at the rate of £7,1036 per £100 of the Stock.

Tenders must be lodged at the Bank of England, New Issues, Watling Street. London, ECAM 9AA not later than 10.00 c.m. ON WEDNESDAY, 14th OCTOBER 1981, or at any of the Branches of the Bank of England or at the Glasgow Agency of the Bank of England not leter than 3.30 p.m. ON TUESDAY, 13th OCTOBER 1981. Each tender must be for one amount and at one price. The minimum price, below which tenders will not be accepted, is 295.50 per cent. Tenders must be made at the minimum price or at higher prices which are multiples of 25p. Tenders todged without a price being stated will be deemed to have been made at the minimum price.

separate cheque representing a deposit at the rate of £25.00 for every £100 the nominal amount of Stock tendered for must accompany each tender; seques must be drawn on a bank in, and be payable in, the United Kingdom. Echannel Islands or the 1sle of Man. Envelopes containing tenders should marked "Exchequer Tender."

E100—E1,000 E1,000—E3.000 E3,000—E10,000

Her Majesty's Treasury reserve the right to reject any tender or to allot a less amount than that tendered for. If undersubscribed, the Stock will be allotted at the minimum price, the balance of Stock not tendered for being allotted at the minimum price to the Governor and Company of the Bank of England, Issue Department. If oversubscribed, all allotments will be made at the lowest price at which any tender is accepted (the allotment price), and tenders which are accepted and which are made at prices above the allotment price will be

Letters of allotment in respect of Stock allotted, being the only form in which the Stock may be transferred prior to registration, will be despatched by post at the risk of the tenderer, but the despect of any letter of allotment, and any refund of the balance of the amount paid as deposit, may at the discretion of the Bank of England be withheld until the tenderer's cheque has been paid. In the event of such withholding, the tenderer will be notified by letter by the Bank of England of the acceptance of his tender and of the amount of Stock allocated to him, subject in each case to payment of his cheque, but such notification will confer no right on the tenderer to transfer the Stock so allocated.

No allotment will be made for a leas amount than £100 Stock. In the event of partial allotment, the balance of the amount peid as deposit will, when refunded, be remitted by cheque despatched by post at the risk of the tenderer; if no allotment is made the amount paid as deposit will be returned likewise. Payment in full may be made at any time after allotment but no discount will be ellowed on such payment. Interest may be charged on a day-to-day basis on any overdue amount which may be accorded at a rate equal to the landon lesser. But Officered on such payment. Interest may be charged on a day-to-day basis on any overdue amount which may be accepted at a rate equal to the London Inter-Bank Offered Rate for seven day deposits in storling ("LIBOR") plus 1 per cent per annum. Such rate will be determined by the Bank of England by reference to market quotations, on the due date for the relevant payment, for LIBOR obtained from such source or sources as the Bank of England shall consider appropriate. Default in due payment of any amount to respect of the Stock will reader the allotment of such Stock liable to concellation and any amount previously paid liable to forfeiture.

Letters of allotment may be split into denominations of multiples of £100 on written request received by the Benk of England, New Issues. Watling Street, London, EC4M SAA, or by any of the Branches of the Bank of England, on any date not later than 11th November 1981. Such requests must be signed and must be accompanied by the letters of allotment.

Letters of elletment must be surrendered for registration, eccompanied by a completed registration form, when the balance of the purchase money is paid, unless payment in full has been made before the due date, in which case they must be surrendered for registration not later than 13th November 1981.

Tender forms and copies of this prospectus may be obtained at the Bank of England. New issues, Watting Street, London, ECAM SAA, or at any of the Granches of the Bank of England, or at the Glasgow Agency of the Bank of Feland, Mayore Buildings, 1st Floor, 20 Cellender Street, Bellisst, 871 58N; at Muliens & Co., 15 Moorgate, London, EC2R 6AN; or at any office of The Stock Exchange in the United Kingdom.

BANK OF ENGLAND

THIS FORM MAY BE USED

TENDER FORM

This form must be lodged at the Bank of England, New Issues, Watting Street. London, ECAM 9AA not later than 10.00 a.m. ON WEDNESDAY, 14th OCTOBER 1991, or at any of the Branches of the Bank of England or at the Glasgow Agency of the Bank of England not later than 3.30 p.m. ON TUESDAY, 13th

ISSUE BY TENDER OF £1,000,000,000

15 per cent EXCHEQUER STOCK. 1997

MINIMUM TENDER PRICE £95.50 PER CENT

TO THE GOVERNOR AND COMPANY OF THE BANK OF ENGLAND I/We tender in accordance with the terms of the prospectus deted 9th open 1981 as follows: mentioned Stock tendered for, being a minimum of £100

Amount of Stock tendered for £100—£1,000 £1,000—£3,000 £1,000—£10,000

2. AMOUNT OF DEPOSIT (a)

3. TENDER PRICE (6)

I/We hereby sagage to pay the balance of the purchase money when it becomes due on any allotment that may be made in respect of this tender, as provided by the said prospectus.

SIGNATURE October 198 PLEASE USE BLOCK LETTERS MR/MRS FORENAME(S) IN FULL SURNAME FULL POSTAL ADDRESS:-COUNTY POSTCODE STAMP OF LODGING AGENT (IF ANY)

a A separate cheque must accompany each tender. Chaques should be made payable to"Bank of England" and crossed "Exchloquer Stock". Cheques must be drawn on a bank in, and be payable in, the United Kingdom, the Channel Islands or the Isle of Man.

b The price tendered must be a multiple of 25p and not less than the minimum tender price. If no price is stated, this tender will be deamed to have been made at the minimum tender price. Each tender must be for one amount and at one price.

Brittan takes up the stick of tax increases problem that the Government faced, but rejected the notion IF Mrs Margaret Thatcher were

captain of a cricket team, faced with fading evening light, the prospect of an innings defeat and a cluster of quick eatching Tory dissidents crowded eagerly Tory dissidents crowded eagerly round the wicket, the person she would most likely call on as night-watchman to stonewall doggedly until close of play would be Mr Leon Brittan, Chief Secretary to the Treasury. Mr Brittan, promoted from the Home Office nine months ago to look after the public spending programme, is a Min-

ister in the Trevor Bailey His straight-batted defence of the Government's economic policies has earned him the reputation of being one of Mrs. Thatcher's most unwavering supporters, and turned him insomething of a target for

the trade unions.

He has the distinction of being given a place in history by Mr Clive Jenkins, who has labelled him an "archaelogical" economist who wants to take Britain not back to gold, but

on to the lead standard.

Mr Brittan's preoccupation at the moment is the autumn round of talks with Cabinet colleagues aimed at bringing next year's public spending in line with the oGvernment's target. The process involves lopping about £5bn off the starting bids put in by spending Ministers before a crucial Cabinet meet-ing to discuss 1982-83 expenditure later this month. He has no formal economic training. But one of his pre-

vious repsonsibilities as Minister of State at the Home Office, in charge of civil defences, was to provide guidance for building fall-out shelters.

This is not a bad grounding adjusted more toward "things for a Treasury Minister presid-that are desirable." such as ining over a recession which Mr

week with an economic equivalent of the Black Death. In an interview at his office going up deliberately as a rein the Treasury last week Mr sult of conscious Government Brittan spoke plainly about the policy decision to spend extra—

that policies had been blown off-course.

He made plain the sincerity of his belief that there was no way forward other than soldiering on with the Government's policies. He spoke, too, of his concern about the painful consequences of rising unemploy-

Like all his Treasury colleagues he was guarded about forecasting almost anything. But he said that the downward movement in inflation. which has levelled off for the moment, would continue "in a perceptible way," that output would rise at a "modest" pace next year, and that unem-ployment would be falling by

He admits that the recent sharp rise in interest rates, caused partly but not solely by tight money in the U.S., has been a setback

"Of course these outside fac-tors make things more difficult, of course they tend to delay overy, of course they're bad rather than good." But pinning his colours firmly

to the mast of fiscal stringency raised aloft in the March Budget, he says that this makes it all the more important to keep down public-sector borrowing at home. Reducing the government demand for credit will lead to "interest rates lower than they

fore makes it possible for the increase in the private wealthcreated sector of the economy to be greater than it would otherwise be." He agrees that the balance

would otherwise be, and there-

that are desirable, such as in-vestment rather than pay. But the lid should be kept on Enoch Powell compared last tightly. "The total level of spending David Marsh talks to Leon Brittan (below) about the realities of government economic policy



I would not favour that." Restrained spending would make room for possible tax reductions he says. He claims that the 1979 reduction in upper rate of income tax has led to a "sea-change in managerial expectations.

Asked if the Government is giving priority to cutting the national insurance surcharge, as

industry hopes, he says: think there is a very strong case for concentrating any [tax] change that one can make on helping industry to emerge from the recession."

Apart from the carrots of interest rate and tax cuts, he hints at another reason why

"I think that the public which is steadily and resolutely sector borrowing requirement is sticking to a policy designed to a crucial determinant. If we're reduce the tate of inflation does not going to achieve what we have an effect on people."

generally more acceptance his own North-East constituency (Cleveland and Whirby) in-cluded of the Government's message that high pay increases have contributed to unemploy-

"I find that if you say to people. If you want to protect people: If you want to protect or fortection to the system and your jobs and to give a chance an attempt to start on a realistic to the 3m people who are un-basis that we have embarked employed to come back into upon is something that I paspared to respond."

It is not that the Government

is being unrealistic to ask for wage increases of less than the cost of living, he says. "It is ask for anything else." Mr Brittan is a lawyer, like

Sir Geoffrey Howe, the Chan-cellor and he believes that one reason why he was selected for palliati the task of dealing with public sense. spending was his ability to maintain good relations with Cabinet colleagues:

"You've got to be able to get on with people, but at the same time you've got to be fairly sharp, and an excessive degree won't do any good.

He stresses his belief in the

Government's medium-term fin-ancial strategy whose essence,

"There's nothing magic in that we really will have the words" of the strategy. "It brought down a revolution in isn't a fantastically complex. British economic prospects, and jargonistic thing that is going spending should be kept down: on, nor is it anything related to the stick of possible tax theories.

want on the public expenditure side of the account, it would be extremely difficult; even to reproblems of the complexity of tain the present position as far the British economy would be as tax is concerned."

Mr Brittan says there is now point of insanity if he didn't generally more acceptance his own North-East constituency

right or not "Of course one does, and of course one recognises the possibility that others may be right and I may be wrong."

But he affirms that "the sort of correction to the system and

employed to come back into upon is something that it has work, we have to have a cut in sionately believe in living standards, that is a mes. "And the reason why I think sage to which people are pre- I am here is not so usuch pared to respond."

because of any skills of mediation or persuading colleagues, but because I do hold that view."

rather that people have begun intensely painful to go through to realise that it's unrealistic to the period of adjustment. What we've got to do is both to explain it in a coherent and persuasive way and to take measures to reduce the pain-palliative measures in the best

"There's a ray of hope that we will gradually emerge from the recession first with output increasing, then with memployment coming down and with productivity up and inflation down with a new sense of blandness and bonhomie realism in industrial relations and with a readiness to pay our selves what we earn and when we have earned it.

Now if that can be achieved he says, lies not in "a series — and I don't believe that the of figures" but in steady progress in a particular direction makes it impossible to achieve that we really will have the words" of the strategy. "It brought down a revenue that the strategy of the strategy." I think it's worth going through a hell of a lot of political flak to get there "

Little action on oil-coal factory conversion plan

BY MAURICE SAMUELSON

ONLY EIGHT grants worth a allows the Government to pay up few thousand pounds each, have so far been made under a £50m conversion. Government scheme to assist conversion of factories from oil

The boiler making industry is dismayed by the lack of progress as the two-year scheme, launched in May, was hailed by makers of shell boilers as a ifeline to putt them out of a

deen recession. The National Coal Board, with list of 1,000 companies interested in switching to coal, thought it would help to open up a market for an additional

the scheme's success, boilermakers and coal industry circles blame the sluggish response on the "inertia" of the Government in bandling applications, as well as on the general economic Industry's lack of interest is

reflected by the fact that although the Industry Department distributed about 1,000 French Government measure, a year.

The scheme, modelled on a

application forms, so far only 38 concrete requests have been made. Eight grants have been taken up, nine offered by the department, five applications rejected and 16 not yet processed.

The department says that the forms are merely "par for the course" and no more difficult to complete than for similar grant schemes.

to 25 per cent of the cost of a

cials say that some companies

were deterred by the com-

plexity of the application forms

and Government insistence on

local planning permission (as where chimneys need to be

built) before grant application.

Boilermakers and NCB offi-

Although the Industry Depart- and grants are now being ment thinks it too soon to judge offered pending local authority go-ahead.

The scheme has been bitterly criticised as applying only to conversions from oil, not gas. The Energy Department agrees that this is an "illogical" distinction, but the Industry Department is not expected to drop it on review at the New Year.

The Coal Board and industry are now hoping that the rest of the 38 applicants will include some sizeable schemes. Two applications are understood to involve a combined consumption of about 200,000 tonnes of coal

Call for stress on 'cutting industry's costs'

A GOVERNMENT committed to industrial recovery should make it a priority to do more to help industry cut its cost base. Sin Antony Part, chairman of the Orion Insurance Company, said in London

It should make up for industry's shortage of funds for capital investment, which was central to increased productivity, by making leasing more attractive, he told the annual meeting of the Regular Forces Employment Association.

Sir Antony, a former Permanent Secretary of the Depart-But it has accepted the criti- ment of Trade and Industry, said government should increase selective aid to research and development—especially in advanced technology — and reduce the national insurance

Government public purchasing should be better co-ordinated with its industrial policy. In particular, there should loser liaison between Ministry of Defence and the Departments of Trade and Industry. Admiral Sir Desmond Dreyer

president of the association, said the majority of men leaving the services "were still finding employment of some sort, even though in many instances the jobs would not have been first choice jobs."

Curbs urged on electricity cut-offs BY LISA WOOD RENEWED DEMANDS that the culties in paying electricity bills. Through the courts consumers

right to disconnect an electricity London Electricity Board's have little protection from harsh supply be removed from the record in handling its poorest treatment by the board." supplier are made in a report customers is severely criticised.

His report recommends that supplier are made in a report customers is severely criticised. This report recommends that mr Sean Baine, director of the Government should introThe report, by the Greater the Greater the Greater London Citizens duce a fuel subsidy scheme to Advice Bureau Service, is the product of two surveys of people who visited "As long as the LEB is allowed provide additional income supits bureaux because of difficults of the Greater London Citizens duce a fuel subsidy scheme to Coordinates 100 bureaux, said from fuel price increases or surveys of people who visited to disconnect without going port for low-income households.

Belle Vue, Manchester

Newcastle -

Earls Court

NEC, Birmingham

Hotels Bloomsbury Centre

NEC, Birmingham

Copenhagen

Wembley Conference Centre

Cunard Intl. and West Centre

Wembley Conference Centre

Bingley Hall, Birmingham

Wembley Conference Centre Town Hall

EXHIBITIONS

BUSINESSMAN'S DIARY

UK TRADE FAIRS AND EXHIBITIONS

Oct 13-16	6th International Airport Construction and Equip-
Oat 13-16	ment Exhibition (0727 63213) Distribution Services Show (01-908 2122)
Oct 14-15	Hardware Review Exhibition (01-684-4082)
Oct 14-16	Internepoun Conference and Exhibition (0483 38085)
Oct 20-29	International Business Show (01-405 6233)
Oct 20-23	London Fashion Exhibition (01-385 1200)
Oct 21	Motorfair (01-385 1200)
Oct 24-28	
	Trade Show—AUTOPARTAC (0494 41548)
Oct 27-29	Computer Graphics Exhibition (09274 28211)
Oct 27-29	Electronic Test and Measuring Instrumentation
	Exhibition—TESTMEX (0822 4671)
Oct 28-Nov 8	Model Engineering and Hobbies Exhibition (0455 637173)
Nov 3-6	Health & Safety at Work Exhibition (01-683 7788).
Nov 5-10	Kensington Antiques Fair (04868 22562)
Nov 8-12	International Domestic and Contract Textiles

Exhibition - DACTEX (01-572 2121) OVERSEAS TRADE FAIRS AND

Current International Market for Videocommunications-Oct 15-25 International Flower and Horticultural Show (01-540 1101)
Oct 17-21 International Exhibition of Women's Ready-Made Clothing (01-439 3964)

International Water Exhibition and Conference (01-272 4287)

International Security, Safety and Protection of Oct 20-23 Mankind and Property—EUROPROTECTION/
EUROSECURITY (01-486 1951)
Oct 21-27 International Petroleum and Gas Exhibition (01-

235 2423)
Electrical Engineering Exhibition (01-540 1101)
International Sports, Swimming Pools and Leisure
Facilities Trade Fair (01-409 0956) -Cologne Nov 3-7 International Engineering Exhibition (01:681 7688) Nov 4-5

...... Resins and Pigments Exhibition (0737 68611) Oct 12-13 AMR International: Effective presentations (01-262 2732)

BUSINESS AND MANAGEMENT CONFERENCES

Lloyd's World of Shipping Conference (01-353 1000) Oct 13 IPS: Costs and prices—the outlook for 1982-83 (0990 23711)
Oyez-IBC: Drafting commercial contracts variations of standard forms and essential provisions Oct 14-15 (01-242 24S1) Computer Personnel Oct 13 British Institute of Management: The Institute of Manager (01-405 3456)

Oct 20-22 Welsh Development Agency: "Hi-Tec" in Gwent (044385 2686)

Oct 21 Gower: Insolvency 1981 (61-240 5931)

Oct 21-22 Energy Business Centre: Energy Projects Information Conference (01-439 9621)

Oct 21-23 PPA: Team-Talks '81—for those in periodical publishing (01-837 8000)

Oct 21-23

PPA: Team-Talks '81—for those in periodical publishing (01-937 8000)

Oct 24-25

Thames Polytechnic: Starting Your.Own Bosiness? (01-854 2030)

Oct 27

LCCI: Focus on mainland Spain and the Canary Islands (01-248 4444)

Oct 28

Dun and Bradstreet: More Effective Trade Credit Management (01-247 4377)

Oct 28-29

Croner: Employment Law Update (01-942 3956)
Institute of Purchasing and Supply national conference (0990 23711)

Oct 29-30

AMR: Management Buy-Outs (01-262 2732)

Oct 30

Local Radio Association discussion meeting (01-883 7229)

Nov 4-6

American Tax Institute: International aspects of U.S.-European Taxation (Paris (1) 256 3370)

Nov 12 U.S. European Taxation (Paris (1): 256-3370).

Nov 12 IPS: Computer Purchasing (0990-23711).

Nov 13 Bath-Chamber of Commerce: The New Industrial.

Challenge (6225 60655)
First World Congress on Management Development (6234 48388) Nov 18-20

Westoury, WI Penta Hotel, SW

Scientific Society, W1 Guzzberland Hotel, WI Centre Point, WCL. Florida

Newport Park Lane Hotel, W1 Connaught Rooms, WCZ

Royal Garden Hotel, WS. Polytechnic: SE18 69 Cannon, Street, EC4

Albany Hotel, Birmingham Kensington Close Hotel, WB Harrogate Royal Garden Hotel, WS: Comanght Booms, WC2

Carlion Hotel Cannes Tower Hotel Ed Beauforr Hotel, Bath Mark Lane, EC1

Anyone wishing to attend any of the above events is advised to telephone the argum ensure that there has been no change in the details published.

INSURANCE

Lloyd's tightens security

security supporting its insurance operations over the last

The new drives to tighten security followed the publica-tion of last year's Fisher report Lloyd's self-regulation, which pointed out certain weak-nesses in the market's security

Lloyd's has responded to the report's findings in a number of ways. Binding authorities, the devices by which insurance specialists not connected with Lloyd's or brokers can accept business on underwriters' hehalf and which led to the huge losses sustained by the Sasse syndicate, are now required to

be registered at Lloyd's. The users of the authorities must also be screened as to suitability through a vetting tri-Although there is a loophole in the system in that UK holthe authorities are

exempt from te tribunal vetting. there have been few signs yet of any problems. Lloyd's has also insisted that insurance brokers should set out premiums and claims as

clearly as possible before submitting binding authority declarations to the Lloyd's Policy Signing Office for pro-cessing and further documenmembers that the practice of tation. Binding authority declara-

reducing, for declaration purposes, the amount of premium which underwriters are accepttions are frequently presented ing by whatever the reinsurance in a manner which makes it protection costs is contrary to very difficult to detect the presence of claims," the market has been told.

LLOYD'S OF London has been unenforceable in the courts limits established by Lloyd's. attempting to improve the because the assured has no Premium income limits are insurable interest, have been banned. The Fisher report concluded that this type of insurance harmed the reputation of Lloyds. Reinsurance limits in all

classes of business at Lloyd's have been reduced in an effort to prevent syndicates over-trading. Reinsurance limits for to 1982 have been reduced to 30 per cent of the stamp capacity of an individual syndicate. This means that underwriters will only be able to reinsure to

per cent of their overall premium income limits. In some markets the new limits laid down by Lloyd's represents a reduction of about a half in the amount of reinsurance underwriters could carry. underwriters were becoming too reliant on reinsurance to settle

an amount which represents 30

claims and taking inacceptable risks in a more litigious insurance climate.

In another effort to curb overtrading at Lloyd's, underwriters are now prevented from making "net entries" when declaring their business to the Lloyds Policy Signing Office. Lloyd's has reminded its

the market's audit rules; The non-compliance with the rules has allowed underwriters Insurance policies, known as to accept far greater volumes 'tonners," which are nothing than they would be permitted support their insurance under-

usually twice the means shown by the Lloyd's member. For instance, if a Lloyd's member has shown wealth of £100,000, he could accept as much as £200,000 in premium. The syndicates at Llovd's, formed of individual members of Lloyd's, aggregate the premium limits of the members who participate. By not following the audit

rules established by Lloyd's

and using the form of net

underwriters in the Lloyd's

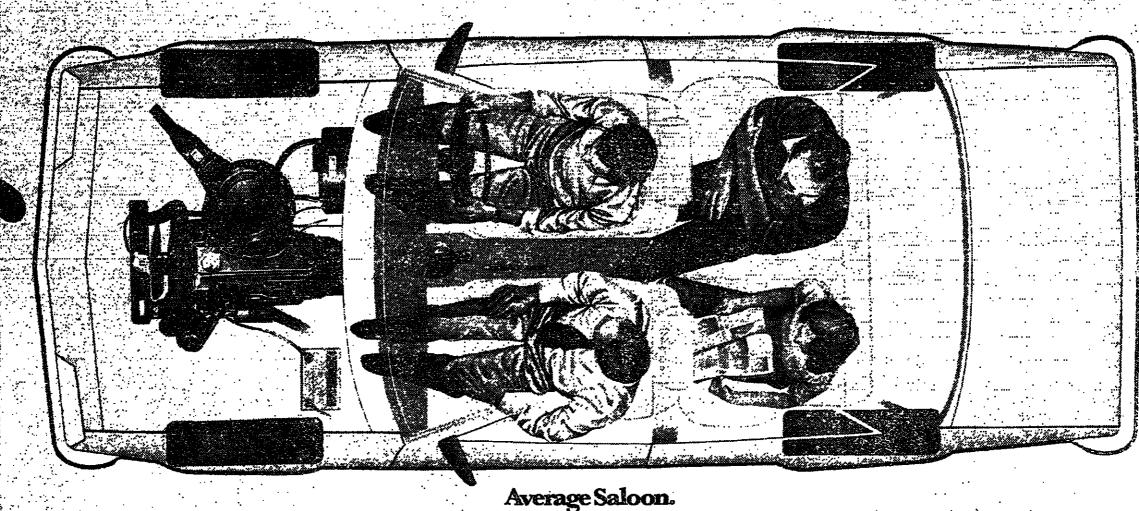
active

accounting described,

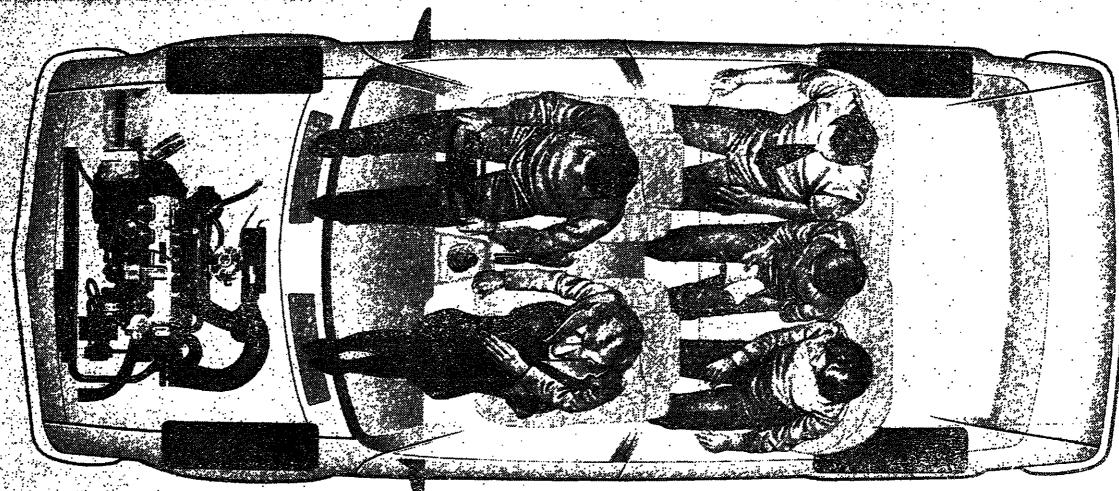
market have often accepted business which bears little relation to the amount of capital which is backing the syndicate's operations. While profits are being made, there are no But when claims exceed pre miums and start rising dramatically, the losses may be more than an individual syndicate can

support. The practice of "net accounting" could undermine the whole basis of Lloyd's security.
Lloyd's is insisting that separate entries are shown in accounts, indicating the full amount of premiums and reinsurance premiums when submitting documents to the Lloyd's Policy Signing Office.

Lloyd's has requested that underwriting agents, the groups which look after underwriting members affairs, should have a measure of error and-omission insurance cover, and is also instituting a series of checks on its members to see that their means are adequate enough to more than a pure gamble and under the premium income writing commitments at Lloyd's.



ene passengers CCOME.



Princess 2.

from a different angle.

Yours.

bends to the needs of its passengers, not one where the passengers traffic fumes out. bend to the shape of the car.

In fact, with its 'O' series transverse mounted engine, the Princess gives more passenger space, relative to its overall size, than any similar car.

Next, we took a sideways look at conventional suspension ideas. And threw them all away.

Instead, we employed our

Before we built the Princess unique Hydragas suspension we decided to look at cardesign system. If it feels like you're driving on air, it's because you are.

When it came to the interior The result, a family saloon that we used another fresh idea. An air re-circulation facility to keep

> We also included an acoustic control pack to keep out noise. Fibre optic switch gear illumination.

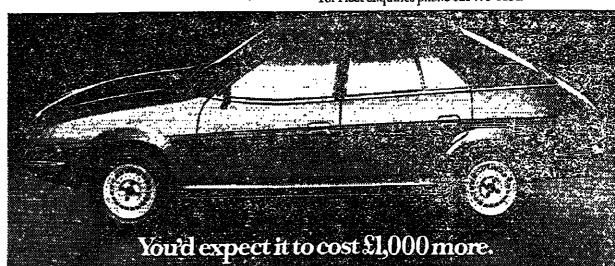
And a seat that adjusts to 240 different positions. So even the driver can have different points of view.

But don't just take our word on the Princess. Find out how good it is for yourself by taking it for a test drive.

'What Car?' magazine did and they voted it Family Car of the Year. And that's good news whichever way you

look at it.

Princess 2. From £5,128.



Finance chief for **Stone-Platt**

* company, Mr Roger Hunstone is leaving the group to pursue of the Fener power to the interests outside the control industries has appointed Mr R. N. P. Lawrence as general manager and a director of Pye Borders Electronics. Kelso

VICES, will be retiring on February 28, having reached the age of 65. Mr W. B. Thomas, at present responsible for cargo appointed Mr B. T. Dixon, at present responsible for cargo sales, is to be appointed managing director of the company with effect from January 1. Mr Thomas joined Cory Brothers in 1950.

Mr Geoffrey L. Hoddinott has been appointed managing direc. NATIONAL (a member of the tor of REMINGTON CONSUMER Furness Withy Group) has PRODUCTS with responsibility appointed Dr A. D. Milne and Mr PRODUCTS with responsibility for the UK, Europe, Africa, and the Middle East. He was prethe Middle East. He was previously divisional director at Philips Business Systems.

W. s. Smill as directors. Dr Mine is director of the Wolfson Microelectronics Institute at the University of Edinburgh

EC ENGINEERING SUPPLIES has appointed Mr John Roc as managing director. The company is part of the Newey and Eyre Group. Mr Philip Barker, presented by Mr P. W. Barker, viously company secretary, joins the board as administration director. The Newey and Eyre Group finance director, Mr Brian agreed to remain on the board

Mr T. Desmond Murphy has Young, takes over as chairman been appointed finance director of the company. Managing of STONE-PLATT INDUSTRIES director since the formation of

manager and a director of Pye
Borders Electronics, Kelso.

Wr D. G. Drewett, deputy
cbairman of POWELL
DUFFRYN SHIPPING SERVICES will be raticing an FitzGerald, the present Chief Commissioner, retires in March.

> COMPUGRAPHICS W. I. Smith as directors. Dr University of Edinburgh. Mr Smith becomes financial director.

non-executive director (formerly responsible for the marine cargo deputy chairman of Hill Samuel and C.); Mr A. S. T. Clegg-managing director of the Fenner South African subsidiary; Mr P. J. N. Harvey—managing direc-tor of the Fenner Group subsidiary, James Dawson and Son; and Mr S. Parker—sales director of the Fener power transmission

Co. to the board.

WIGHAM POLAND HOLD-INGS has appointed Mr D. man of Amalgamated Power Finnett and Mr A. D. Delderfield Engineering in place of Mr H. A. to the board. Mr Finnett will be Whittail who has resigned.

Mr D. A. Gledhill has been Scotia. Mr John R. Kane and appointed chairman of SWIRE Mr Brian N. Cons have been SHIPPING (AGENCIES), Hong appointed vice presidents of the Kong, and of Taiwan Swire. He becomes the director responsible for all shipping matters in Hong Kong in addition to his present responsibilities as executive director (shipping and offshore) of Swire Pacific. Mr Gledhill, who is based in Hong Kong, is also chairman of Hongkong United Dockyards. The Hong-kong Salvage and Towage Co., and Modern Terminals.

Mr Graham Tardif has been ppointed president of CAM-BRIDGE REINSURANCE. Bermuda subsidiary of National Sea Products of Halifax, Nova

in a non-executive capacity. responsible for the marine hull other apointments to the board division following the retirement of J. H. Fenner and Co. (Holdings) are Mr T. P. Thornton as a

appointed sales director of HORIZON HOLIDAYS. Mr Derek Beeston has been appointed con-

Amalgamated Power Engineering has now been integrated into the PEI Group and the APE businesses in the UK will operate BRADFORD AND BINGLEY businesses in the UK will operate BUILDING SOCIETY has appointed Mr Douald Hanson, chairman and joint chief executive of Illingworth Morris and the board of the board NEI-APE, Mr R. A. finance director and Mr L. A. finance director and Mr L. A. finance directory. Mr T. Leather is secretary. Mr T. Harrison, NEI managing director UK operations, becomes chair-

Mr Rainer E. Gut. member of executive board of Credit Suisse, has succeeded Dr Robert Lang as chairman of the Swiss holding company ELEKTROWATT AG. Zurich. Mr Hans Hartung, Credit Suisse, and Mr Robert Staubli, deputy management chairman of Swissair, have joined the Elektrowatt board.

Mr Robert B. Huff has been elected president and chief operating officer of BELL AND HOWELL, Chicago, Illinois.

WEEK'S FINANCIAL DIARY

The following is a record of the principal business and financial engagements during the week. The board meetings are mainly for the purpose of considering dividends and official indications are not always available whether dividends concerned are interims or finals. The sub-divisions shown below are based mainly on last very signature.

DIVIDEND & INTEREST PAYMENTS—
AAH 5.5770
AAH

DIVIDEND & INTEREST PAYMENTS-

DIVIDEND & INTEREST PAYMENTS-Corp (of Spath Africa) Pri

THURSDAY, OCTOBER 15 CONTRACTS VICES, City-based computer soft-ware company, bas recently received orders worth over £200,000 for four Data General Systems. The orders which include HCS software, are from Belle Air Holidays, Aries, F. J. Parsons (Westminster Press) and

Financial Times Monday October 12 1981 Westminder | Zinslad | 1981 | 6 les Wyschen Engin | 175p Zimbaltwe | 6.5vt on Settleman Annulty | 81-65 | 550

HARRISON COMPUTER SER-

FRIDAY OCTORER 16

COMPANT METINGS

Spite (Sider) Lo Garden House Hotel,
Cambridge 12.10

Crowther John Four Stinbergh 13.00

Crowther John Edwards Sant Scion

Mails Marsden Hodershed 1.00

Distorm Grant Estbert Hotel

Notice Sapor Strate Will

Smith Whitworth, Midway Hotel, ManChester Road, Castleton, Rochale 11.00

Watshaw's, High Road, Willesder, 11.00

Watshaw's, High Road, Willesder, 11.79 DIVIDEND & INTEREST PAYMENTS-

DIVIDEND & INTEREST PAYMENTS intic Assets Tet To:

illiott (B.) 39 English and New York Tet. 1.75p wart New Northern Se autoral Mining Linkon Serp SScts Mechanist Sep 9.50 Memory Cheography 9.50 James A. A. Shippan 0.75p James A. A. Shippan 0.75p

DIVIDEND & INTEREST PAYMENTS ring Kultung 0.79. Fines 1.2 pecker 2008 25.0838 be tors 2.59

D. A. GREEN AND SONS rication and evention of the structural steelwork for the SPINAL INJURIES UNIT STOKE MANDEVILLE HOSPI TAL, AYLESBURY, to the value of £160,000. Main contractor, Trolloge and Colls.

To prosper in the energy imple, you need an edge.

The Edge:

That's us. The Royal Bank of Canada. As North America's fourth biggest bank and with assets exceeding \$Cdn. 60 billion, we have consolidated our international strength as a bank, by adding to our long established technical expertise in energy and mining. What makes us a world leader?

Our Global Energy and Minerals Group, with the largest reserve of technical experts on staff of any bank in the world. What we get into.

Led by the former Chairman of Canada's National Energy Board, our technical division enables us to become involved in diverse

and distant projects — from financing North Sea oil to acting as financial advisers on a major Australian pipeline. What we do.

We can handle project evaluation and financial structuring in oil sands, synfuels, rigs, pipelines, refmeries and petrochemicals.

We lend financial support to offshore petroleum development, conventional oil and gas production, rigs, heavy oil, enhanced petroleum recovery, coal mining projects, you

There's more. With the help of our Resource Information



and Analysis Group, we provide expertise in oil and gas price forecasts, costs and royalties. as well as government regulations, project intelligence, energy and minerals information resources. We also provide modelling and simulation of project financial flows and risk. How to tap our resources.

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threaten pay revolt

London and the South East are country."

Warning of plans to stage this the impact of further job losses winter, whether or not their on members readiness to supumon negotiators at national port any such campaign.

The fact that \$5 000 jobs have

level recommend it. The fact that 65,000 jobs have National union negotiators been lost in the past year will will present the manual be emphasised when the manual workers claim in Leitester workers formally present to tomorrow, but shop stewards in morrow their claim for in-London and the South-East creases linked to the prevailing

London and the South Cast creases linked to the prevailing have called a conference to rate of price inflation, start organising a major cam reduction in hours and improve paign now before the em ments in holidays ployers side is expected to The local councils will not reply probably early next reply much beyond stressing month. The conference on October stances. But they are likely to 28, is being organised mainly give figures to the unions showby the National Union of Public ing the outturn on the paybill Employees and the Transport of last year's settlement, and General Morkers Union in While this was nominally 7; the area.

A statement from the the outturn to have been about

A statement from the the outturn to have been about organisers. Nupe's Camden 2 per cent. Male manual earn-

General Branch, says; "In the ings have risen by less than

been organised, and conse earnings by slightly more than quently we have been forced to '6 per cent, because of the effect

submit to Government pay of a flat-rate increase and over-

reluced the living standards of has fallen.
Our members."

Mr. Alan, Walter, Nupe contoner in Canden's works depart indicating that the councils can ment and one of the conference go beyond the Government's cash limit pay provision of 4 per "We are considering industrial" cent. Some Labour-controlled action in the London region.

nationally. By doing so, we hope . Labour control of the fire-to set an example to the nego men's negotiating body is also

Council manual workers

COUNCIL manual sortiers in tiators and to the rest of the expected to mean that the fire

6 per cent and female manual

time-mainly worked by men-

beyond the 4 per cent limit. honour the firemen's pay agree-

ment, which links their rises to

This is normally published

late in October but may be delayed this year because of the

effect of the five-month Civil

Following the divisions in

that dispute between Cabinet

hard-liners mainly the Prime Minister and Treasury Ministers

—and "doves" such as Lord

Soames, who has since been

replaced at the Civil Service

medium-term tactics over Civil

Treasury Ministers and Downing Street are believed to be urging that this year's deal

-due for settlement in April

—should reflect the views to

evidence to the Megaw inquiry into Civil Service pay

Mr Barney Hayhoe, Civil Ser-

vice Minister, is to make a

Parliamentary statement shortly

after the recess, making it clear

that under the provisions which

settled the strikes, Civil Service

pay is not bound by the 4 per

there are differ-

Service pay dispute.

Department, ences

Service pay again.

the upper quartile of manual

ment's New Earnings Survey.

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Cazenove & Co., 12, Tokenhouse Yard, London

October 12, 1981

Basnett

warns of

tough line

by Labour

A SENIOR TUC leader

warned yesterday that the

would have to introduce draconian measures." These

might prove uppalatable to

trade unionists but would be necessary because of the

present Government's policies.

Mr David Basnett, chairman

of the TUC economic commit-

tee, said the unions would have to agree "a clear policy of crisis measures" from Day

One of a Labour government.

have to be draconian. They may well have to deny imme-

diate satisfaction on both the

collective and personal fronts,

but we need this survival kit

—and we need to make it

some trade unionists as a

pointer towards TUC agreement on an incomes policy.

cipal Workers' Union, later

denied that this was necessarily so. He said the Gov-

ernment was seeking a con-

frontation and, accordingly, a

confrontation would come

Mr Basnett, general secretary of the General and Muni-

"Some of the measures will

TUC members 'shun ballot funds scheme'

BY CHRISTIAN TYLER, LABOUR EDITOR

THE GOVERNMENT'S provision of state funds for trade applications failed because of time postal ballots has falled the strickness of the criteria. to meet the standards set for it according to an independent research organisation.

past two years no campaign has

action in the London region,

which have savagely

reluced the living standards of has fallen.

regardles of what is happening port them in this.

only 14 applications. None of bers to hand-deliver their sealed the TUC's 110 affibated trade

unions has been among them. Of the 14 applications, only four were successful, and in only one case did the organisation applying for money receive

The figures have been compiled by IDS Brief, which monitors labour law for Incomes

The study says that the IDS says small staff associa-scheine has falled on important tions operating on a limited counts. It has been boycotted budget which would like to take by the big trade unions, and has been of little help to the small associations which have tried to use it.

State aid for postal ballots was introduced in October, 1980, as part of the Employment Act. The Government hoped to encourage the spread of secret balloting to secure a more representative—that is more moderate—trade union—leader—this

ship.
The ballots were supposed to apply to the starting, and stopping, of strikes as well as to election of trade union

officers.

However, only two applica-tions waiting for the certi-fication officer who administers among the workers involved. the scheme have been for indus-trial action purposes. One is lodged by the British

Association of Occupational Therapists. The other is from the Clearing Bank Union, making a retrospective claim for the cost of a ballot during the last bank staffs wage dispute.



One organisation complained that it was refused money on research organisation.

a technicality. In another case
In the first year of its opera- an application was rejected
tion the scheme has attracted because the union allowed mempapers as well as using the Post

> The scheme is criticised for not reimbursing unions for the cost of employing outside agencies to do the administrative work

The Government's claim that The scheme does not interfere with the internal affairs of trade imiens is challenged.

advantage of the scheme cannot do so without changing their balloting rules. This constituted "interference by inducement."

posed one to allow hand delivery of ballot returns. another to allow small unions to reclaim the costs of outside agencies or temporary adminis-

trative help.
The Government is considering a much more radical option. The Green Paper on trade union immunities being studied by Mr Norman Tebbit, the Employment Secretary, asks whether legal immunity for strike action should be removed in all cases where a secret ballot has not first been held

If Mr Tebbit decides to pursue this suggestion, it could appear alongside other labour law reforms in the next couple

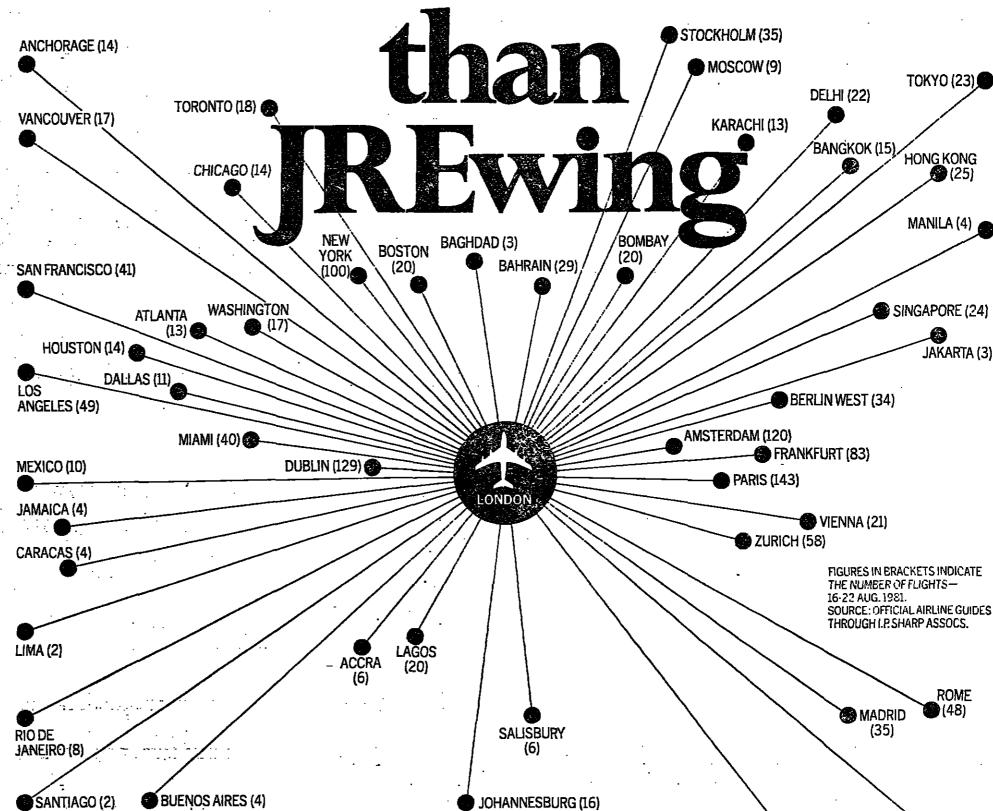
Left back **McCreadie**

Britain's largest civil service union bave approved Mr John McCreadie—a CPSA assistant secretary and a supporter of Labour's Militant tendency is their candidate in the union's general secretary elections. He will stand against Mr Alastair Graham, the union's deputy general secretary, for the post.

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First Nat. Secs. Ltd 17 %	‡ Call deposits £1,000 and over
Robert Fraser 16.9%	14%. 9: Demand deposits: 14½%. (F 21-day deposits over £1,000 15½%.
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Why a clog in the patent pipeline is obvious

A. H. Hermann reports on the after-effects of the overhaul of the UK patent system

came into force it represented the first complete rewrite of British patent law since 1852. However, in the four years since the system was overhauled virtually no patents have been granted under the new Act.

So what has gone wrong with Those who are in the business a system of which great things of working on new inventions were expected-not least that it and improvements obviously would be of assistance to small prefer early publication because firms? The Act brought British they need to know what others legislation into line with the European Patent Convention. It made an invention as a result replaced the archaic language of unique circumstances, or to of 1852 with a lucid, modern conditions relating to the granting of patents which may yet prove a barrier against the flood of minor transatlantic patents seeking ratification in Europe at least this is what France, the only country where patents are the first category and small not examined before being enterprises and individual ingranted, expects from the European patent system.

The new system provides information about new developments much more quickly than before, but so far it has not proved to be of great benefit to those seeking protection for their inventions.

saddled from the very begin- of new inventions and made the ning with two contradictory objectives: one is to provide an incentive to inventors by granting them a temporary monopoly on the exploitation of their in-The other objective is to stimulate and facilitate

DURING THE 1980s, upheavals are bound to beset the European motor industry. So, a constantly nagging question is, which companies will survive?

The Europeans are hemmed in by the Japanese manufacturers and are thus priced out of most markets and restricted to areas, like Europe and the U.S., of relatively little growth

They are having to spend reserving sums — around £10bn over sity the next three years - to produce the right cars for a post oil crisis world, yet they are unsure about which type of new

technology will be marketable. The majority opinion, therefore, is that some restructuring have to take place. But within the industry itself diplomacy usually prevents any public discussion about which

companies will come through. And that encourages those on the fringes of the industry to draw up their own lists.

The latest forecast deserves attention because it is contained

The publication of the invention is the price which - in addition to the fees of the Patent Office, the patent agents and lawyers - the inventor pays for his monopoly.

are doing. Those who have " one-off " solve a It introduced stricter encountered in production, will be primarily interested in the quick granting of a patent to protect the exploitation and from the first application. enable the licensing of the new invention. Large, research-based companies tend to be in

Surprise

The 1977 Act and the European Patent Convention have shifted the balance in favour neir inventions.

of those who are primarily
The patent system has been interested in early disclosure granting of patents and their defence in the courts more difficult. This shift could be foreseen at the time the Bill was passed, though the extent of it applications. To grant a patent, has probably taken many people the Patent Office now has to be

tion much different from that originally contemplated.

Under the pre-1977 system there was only one publication of the invention and that took place at the time the specification was accepted—about three months before the patent was granted. The patent game was usually started by filing a first application with a provisional specification describing invention in outline. A complete specification was then filed within a year and with a certain amount of luck the patent could be obtained in

another year's time; but more

often it took three to 34 years

The examination which took place after the filing of the complete specification relatively undemanding. satisfied application requirement of novelty if the vention could not be traced in British patent specifications in the last 50 years. The ques-tion of "inventiveness" or "non-obviousness" used to be considered only at the request of an opponent of the grant. In all other cases, if there was no opposition the question was left open and could be tackled

The 1977 Act introduced much stricter requirements for the examination of patent by surprise. It is one of those satisfied that there is an It has become evident that this technological innovation, it was brought only after the patent for a small enterprise is cases where the logistics of an "absolute novelty"; that is, doubling of the publishing code rather slow in applying new has been granted and, as patent the possibility of keeping the

later in the courts.

ceding 50 years. Moreover, the non-obviousness has now to be determined before a patent is granted. The invention has to involve an "inventive step," about which it can be said that it has contributed towards fur-

thering human knowledge. However, as no patents have yet been granted under the new system the only guidance as to what is the "inventive step" is contained in the Patent Office Examination Manual. The sad truth is that it now years.

takes about 41 years before a

patent is granted. As the yearly input of new applications is about 40,000, the Patent Office must now have some 150,000 applications in the pipeline. So far only patents for which applications were made before the 1977 Act are appearing. Patents granted under the new Act will start coming out, it is hoped, early in 1982. Applicants can jump the queue only in exceptional circumstances if they succeed in convincing the Patent Office

The slowing down of the Patent Office output is a result of the new requirement to publish the specification within 18 second time, when the patent has finally been granted.

that the delay is causing them a

"real and substantial hard-

months of the application being filed and then again, for the

WHEN THE Patent Act of 1977 ing the publication of new inoperation have created a situathat it has been published nocould not be accommodated by
the much different from that
where in the world in the prethe publishing and printing system of the Patent Office which cannot handle more than some 50,000 patent specifications The Patent Office to give absolute priority to the preliminary publication of specifications filed under the new system. These amount to some 30,000 each

year. Consequently, the remaining publishing capacity amounts to only 20,000 patents a yearand this is why a backlog has accumulated over the past four

Diminish .

This development was not foreseen in 1977. Then there were high hopes that the establishment of the European Patent Office would relieve the British Patent Office of most of the overseas applications, reducing its input by some 60 per cent. In oney 16 per cent, and there an inventor who lacks the is no immediate prospect that means for a direct exploitation the availability of the European of the patent or who factors that the patent will diminish the content or who factors are the conte patent will diminish the number of British domestic appli-

Any reduction of the backlog of the British Patent Office will, therefore, depend on increasing the capacity of its publishing This would probably system. require a qualitative change of the system

Though the Patent Office sits, so to speak, on the source of

technology to its own operation. Amending specification drafts seems to be a task eminently suitable for word processing machines linked to automatic setting and offset printing. -

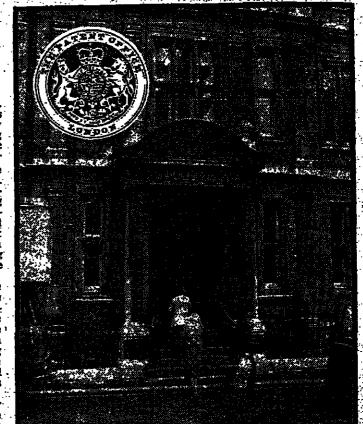
However, the Patent Office still relies on a manual process. Some five to six printing companies are employed on turning out over 50,000 patent specifications a year. It is all small batch printing, as only about 110 copies are required in each case. Such small batch printing capacity is not widely available so output cannot be expanded.

The 41-year wait for the granting of a patent may be acceptable to a large corporation which can meanwhile exploit the patent in its own factories, especially as it can be reasonably certain of being granted the patent on the basis of the experience and special skills accumulated in its

patent department. The situation is different for reasons depends on its licensing. Such an inventor has to wait until the patent is granted before he can start negotiations for its licensing

Also the defence of the invention presents different problems for a small company, on the one hand and a large, financially strong company, on the

Infringement actions can be



The 1977 Act and the European Patent Convention "have made the granting of patents and their defence in the courts more difficult."

litigation is a trial by torture, invention secret until the prothe party which has greater duct is put on the market financial resources is in a better system which publicises the to defend its inposition The best protection.

system which publicises the invention three years before the grant of the patent works. therefore, against the small company.

A perceptive view of the automobile industry

Kenneth Gooding reports on a new study

fully argued paper from Daniel strained by weaknesses in both T. Jones, an industrial econo- product technology and inferior mist and until recently a senior research fellow at the Univer-Sussex European Research Centre.

He suggests that within Europe, General Motors and Ford look like remaining relatively strong throughout the as do Volkswagen, "with less cer-Renault and tainty." the Peugeot-Citroen-

Talbot group. "The only real threat to their freedom of action is Japanese import competition based on superior production efficiency.

However, nearly all the remaining volume car producers, particularly Fiat, Alfa

in a well-researched and care- Romeo, BL and Seat, are conto the author.

> "In most scenarios these companies face the probability of some form of merger or tie-up with more successful volume producers, including Japanese.

> Only if Europe opts for highly-protectionist measures would they stand a chance of remaining independent, with Flat the most likely survivor of the four. The co-operation road might

> look attractive to the weaker car companies but "in the longer term it can lead to pro- dependence gressive

"Simply to rely on co-opera- the tion and production of another producers? company's model under licence may be an attractive way of rationalising the weaker companies but cannot be seen as a way of catching up and remain-

independent in the long

run," says Jones. "As a way of gradually restructuring the industry over a period of years, though, it is possibly an ideal solution and avoids some of the managerial difficulties that accompany a sudden acquisition of a new

> "In this light, government encouragement of this form of restructuring is to be welcome." One of the other questions resolved in the years is: what happens to

low-volume

Jones suggests that Daimler-Benz, the Mercedes group, is likely to survive in its present form with few immediate

And Volvo and Saab, the two Swedish producers, have already begun developing links with Renault and Fiat respectively. There are three possibilities for BMW, according to Jones: Full takeover by a volume

car company; Some form of loose co-operation in engines, components and so on and possibly even sub-contracting assembly to a volume producer so as to concentrate on innovative and specialised design; Or going even further and per cent in the UK.

perhaps concentrating solely on design or perhaps engine design and manufacture.

Jones, like others before him, says that protectionism will be the biggest policy issue facing European governments in the first half of the 1980s.

Protectionism in Western Europe so far has probably kept out something like 500,000 cars a year from Japan-or the equivalent of two assembly plants and one engine plant of minimum efficient scale, he estimates.

This would be made up 120,000 in Italy, 70,000 in Spain and 150,000 in both France and the UK on the assumption that the Japanese could have taken 10 per cent of the market in Italy, Spain and France and 20

The mub of the protection problem, as far as Western Europe is concerned, is the pressure of increased imports on an industry whose structure. will anyway undergo major changes as a result of internal

But Jones warns that, given the difficulty of reversing protectionist measures and the implications for a retreat to pro-tectionism in such a major item of world trade as cars, such a course should only be embarked on with the utmost in nature.". caution and after lengthy con-

sideration. there is little need for protec-

recession in the car markets of Western Europe and the U.S. at a time when the industry is undergoing substantial restricturing could require temporary protective measures until the next upswing in demand in the mid-1980s. And Jones says the time has

come for the U.S., Europe and Japan to get together to find a mutually acceptable solution that stops short of protection. "This would involve restraint by the Japanese and an avoidance of competitive restrictions by the North Americans and

West Europeans. "The exact form in which the negotiations take place is less important than the fact that they should at least be trilateral

Sussex European Papers No 8. Maturity and Crisis in the European Car Industry," by Daniel T. Jones, available from tion in Europe in the medium European Research Centre, Uni-term, although in the imme-persity of Sussex, Falmer, diate future the severity of the Brighton price \$4.

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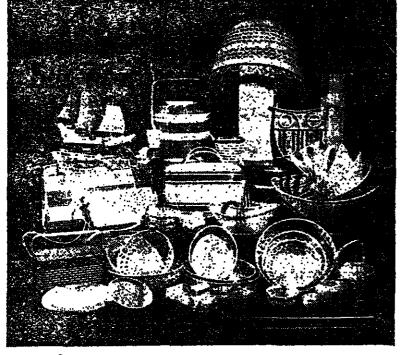
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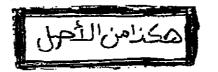
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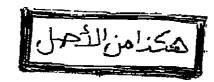
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	Economy	£284	£195
MIAMI	Economy	£121	£119
SAN FRANCISCO	Economy	£503.50	£197
SEATTLE	Economy	£440.50	£219

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airlines.
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10....

5.40 News. 6.00 Nationwide (London and South East only).

Blue Peter visits Beppu in

6.25 Natjonwide 6.55 Angels. 7.20 Blake's Seven.

southern Japan.

8.10 Panorama. 9.00 News. 9.25 The Monday Film: "A Man Called Horse," starr-ing Richard Harris.

11.15 Film S1. 11.43 News Headlines. 11.45 Speak For Yourself.

BBC-1 VARIATIONS: or Wates. 1.45-2.00 Dan Draed 6.00-6.25 Wates Today. 6.55-7.20 Hoddiw. 9.25 Berinn Tattoo 1981. 10.25-11.15 A Tribute to Harry (Junner for Sir Harry Secombe) 12.10 am News and Weather for Wates.

All IBA Regions as London

except at the following times:

ANGLIA

VTA

12.30 pm Botanic Man. 1.20 ATV News. 2.00 Rendezvous with Romance: "Gigi" staring Leslie Caron 5.15 Joe 90. 6.00 ATV Today. 10.30 Left, Right and Centre. 11.10 ATV News. 11.15 Roots. 11.45 The New Avengers.

BORDER

12.30 pm Botanic Man. 1.20 Border News. 2.30 Monday Makines: "Sleeping Car to Triests." 5.15 Survival. 6.00 Lookeround Monday. 6.15 Border Disco Dancing Chempionship. 10.30 George and Mildred. 11.00 RL Action: Bradlard Northern v St Helens. 11.45

CHANNEL

RADIO 1 (S) Stereophonic broadcast \$ Medium Wave 5.00 am As Radio 2, 7.00 Mike Read.

9.00 Simon Bases. 11.30 Dave Les Travis. 2.00 pm Paul Burnett. 3.30 Stave Wright. 5.00 Andy Pabliss. 7.00 Stayin' Alive. 8.00 David Jensen. 10.00-

RADIO 2

5.00 am Ray Moore (S). 7.30 Terry Wogan (S). 10.00 Jimmy Young (S). 12.00 John Dunn (S). 2.00 pm Ed Stewart (S). 4.00 David Hamilton (S). 5.45 News and Sport. 6.00 David Symonds with Much More Music (S). 8.00 Folk on 2 (S). 9.00 Numphrey Lythelion with Mich Rass of Jan (S).

12.30 pm Botanic Man. 1.20 Channel Lunchume News, What's On Where

Border News Summary.

12.00 John Peel (S).

12.30 pm Botonic Man. 1.20 Anglia ews. 2.00 Monday Film Matines: Scaramouche." starning Stewart

BBC 2

unofficial cost a lot more.

until July 1981.

TELEVISION

Chris Dunkley: Tonight's Choice

Tonight is Brideshead Revisited night. The 11-part series which Granada Television calls "the largest scale film serial ever made for British television" finally comes to the screen with a whopping opening episode lasting two hours. The following nine parts, on Tuesdays, will each last an hour, with another double halping for the final episode. The "efficiel" series and the final episode to the final episode.

helping for the final episode. The "official" cost is £4m and the

20th century, has never before been adapted for any screen, and it sometimes looked as though Granada's efforts would fail. They

bought the rights in 1977 and commissioned John Mortimer as

script writer. Director Michael Lindsay-Hogg started shooting in May 1979, but was halted by the FTV strike, had to move on to

other work, and Charles Sturridge took over. Then Jeremy Irons

who plays the central role of Charle Ryder also landed the lead

Granada reeased him for the work, so Brideshead was not finished

Oxford, Venice and so on, is clearly a visual feast. But can producer Derek Granger disprove the rule that television's best

The result, filmed wholly on location at Castle Howard,

in Karel Reisz's film of "The French Lieutenant's Woman

adaptations come from second-rate literature?

Evelyn Waugh's novel, in my view one of the greatest of the

6.40-7.05 and 7.30-7.55 am Open University. 10.10 Supervisors. 10.35 Speak for Yourself. 11.00 Play School. 11.25 Write Away.
1.35 pm A Woman's Place?
2.20 Let's Go.
2.35 Inside Japan.

3.05 Television World.
3.30 Anglo-Saxon Attitudes.

4.50 Open University. 6.55 Paint. 7.20 News Summary. 7.25 Tales of Twelve Cities. 8.10 Des O'Connor Tonight. 9.00 A Kick Up The Eighties. 9.30 Horizon. 10.25 The Innes Book Of Records.

10.50 Newsnight. 11.35-12.05 am Heute Direkt.

and Weather 2.00 The Monday Matines: "Dive Bomber.", 5.15 Happy Days. 6.90 Channel Report. 6.25 School Report. 6.35 Freestyle Dencin. 10.28 Channel Late News, 10.34 Ladies Man. 11.00 That's Hollywood. 11.30 News and Weather in French.

RADIO

with Round Midnight. 1.00 am
Truckers' Hour (S). 2.00-5.00 Two's
Company (S).

RADIO 3

8.55 am Weather. 7.00 News. 7.05
Morning Concert (Continued). 9.00
News. 9.05 This Week's Composer.

GRANADA 12.30 pm Botanic Man. 1.20 Granada Reports. 2.00 Monday Matince: "Carve

Heports, 2.00 Monday Natinee: Carve Her Name with Pride," starring Virginia McKenna and Paul Scolield, 5.15. Give Us a Clue, 6.00 Granada Reports, 10.30 Ladies Man. 11.00 RL Action: Highlights of the fixture between Bradlord Northern and St Helens, 11.45 Charlie's Angels.

MADIO 3

8.55 am Weather. 7.00 News. 7.05

Morning Concert (S). 8.00 News. 8.05

Morning Concert (continued). 9.00

News. 9.05 This Week's Composer.

Mozart (S). 10.00 Chlingirian String

Quartet (S). 11.15 BBC Scottish Symphony Orchestre (S). 1.00 m News.

1 05 BBC Lunchtome Concert (S). 2.00

Matinge Musicale (S). 3.00 New

Records (S). 4.55 News. 5.00 Mainly

for Pleagum (S). 7.00 Shostal-oyich's

Dean Martin and Raquel Welch. HTV Cymru/Wales—As HTV West except: 12.00-12.10 pm Fialabalam. 4.45-5.15 Sår. 6.00 Y Dydd. 8.25-7.00 SCOTTISH

GRAMPIAN

9.25 am First Thing. 12.30 pm
Botanic Men. 1.20 North News. 2.00
Monday Matines: "Casino Royale."
Starring David Niven and Pater Sellers.
5.15 Mork and Mindy. 6.00 North
Tonight, 6.30 Country Focus. 10.30
The New Avengers 11.30 Cover to
Cover. 12.00 The Amezing Years of Cinema, 12.30 am North Headlings.

12.30 pm Botanic Man. 1.20 Southern News. 2.00 Houseparty. 2.25 "Pas-sage Home," starring Diane Criento. 5,15 Heppy Days. 6.00 Day by Day including Southsport. 10.35 Tholler: "Look Back in Darkness" 12.00 Superstar Profile.

TYNE TEES Charlie's Angels.

HTV

12.30 pm Boranic Man. 1.20 HTV

12.30 pm Boranic Man. 1.20 HTV

News. 2.00 The Poetry of Landscape.
2.15' Trader Horn.'' starring Rod Taylor. 5.15 The Flintstones. 6.00
Report West. 10.28 HTV News. 10.30

FYNE IEES

9.20 am The Good Word. 9.25 North

Last News. 12.30 pm Botanic Mon. 1.20

Morte East News and Looksround. 2.00

Portraits of Power—'' Stalin. Man and mage. 2.30 Monday Matinee.

"Beach Party," starring Bob Cummings. Dorothy Malone and Frankie

Avalon. 4.15 Cartoon Time. 5.15

RADIO 4

starring Clint Eastwood and Jessica Walter. 12.25 am Close: "Sit Up And Listen," with Brian Rix.

7.30 Coronation Street.

8.00 Brideshead Revisited.

10.30 The Monday Thriller:

"Play Misty For Me,"

LONDON

9.30 am Schools Programme

12.00 Cockleshell Bay. 12.10 pm

Tweety Pie. 4.20 The Sooty

Show. 4.45 Dangermouse. 4.55 Stig of the Dump. 5.15 Botanic

Man: "Life on the Limit" with

6.00 Thomes News with Andrew Gardner and Ritz Carter.

David Bellamy.

5.45 News

6.25 Help.

10.00 News.

6.35 Crossroads.

7.00 Bullseye.

†Indicates programme in black and white

Happy Days. 6.00 North East News. 6.02 Give Us a Clue. 5.30 Northern Life. 10.30 North East News. 10.32 Briefing. 17.15 Lou Grand. 12.15 am Epilogue. ULSTER

12.30 pm Botanic Man. 1.20 Lunch-time, 4.15 Ulster News. 5.15 Jos 90. 6.00 Good Evening Ulster with Gloria Hunniford, 10.29 Ulster Weather. 10.30 Rockstags. 11.30 Bedtime. WESTWARD

WESI WARD

12.30 pm Botanic Man. 1.20 Westward News Headines. 2.00 The Monday Matines: "Dive Bomber," starring. Errol Flynn 4.18 Güs Heneybun's Birthdays. 5.15 Happy Days. -8.00 Westward Diary. 10.32 Westward Late News. 10.34 Lades Men. 11.00 That's Hollywood. 11.30 Faith for Life. 11.35 West Country Westher and Shipping Forecast.

YORKSHIRE YORKSHIKE

12.30 pm Botanic Man. 1.20 Celendar News. 2.00 Bygones. 2.30 Mondey Matines: "Sixty Glorious Years." starring Anna Neagler. 5.15 Survival. 6.00 Celendar (Emley Moor and Betmont solitions 8.30 Give Us a Clue. 10.30 of the fixture between Bradford North Benson. 11.00 RL Action: Highlights of the fixture between Bradford Northern and St. Helens. 11.45 Run from the Morning.

Boston in Lincolnshura. 11.50 Poetry Please! (S). 12.00 Naws. 12.02 pm You and Yours. 12.27 Joke by Joke . . (S). 12.55 Weather; Programme News. 1.00 The World at One. 1.40 The Archers. 1.55 Shipping Forecast. 2.00 News. 2.02 Woman's Hour. 3.00 News. 3.02 Atternoon Theatre (S). 4.35 What a Job! 4.45 Story Time. 5.00 PM: News Magazine. 5.50 Shipping Forecast. 5.55 Weather; Programme News. 6.00 News, including Financial Report. 6.30 I'm Sorry I Haven't a Clue (S). 7.00 News. 7.05 The Archers. 7.20 Start the Week with Richard Baker. 8.00 The Monday Play (S). 9.15 Kaleidoscope. 9.53 Weather: 10.00 The World Tonight. 10.30 Science Now. 11.00 A Book at Bedtime. 11.15 The Financial World Tonight. 11.30 Sanses of Occasion. 11.40 Music at Night. 12.00 News. Boston in Lincolnshire. 11,50 Poetry Black players make their presence felt

The birching conundrum

Rainbow, 12:30 Wild Wild World which lay at the heart of the of Animals. 1.00 News plus FT recent judgments in the Supreme Court of Canada, Index. 1.20 Thames News, 1.30 About Britain. -2.00 The returned to its imperial home Riordans. 230 Monday Matinee: last week before the Isle of Man Dan Blocker and Nanette Fabray appeal court. "A Woman for Charlie." 4:15

Three years ago corporal punishment was decreed by the European Court of Human Rights in the Tyrer case as a degarding punishment, and as such a violation of a basic human right. Thereafter UK Government was liable internationally to change the law of the Isle of Man.

Faced, however, with the convention that Parliament af Westminster will not legislate for the Isle of Man in relation to the island's internal affairs (including penal policy)— although strictly the sovereign power lies with the UK Government-and an obdurate parliament in the Isle of Man, which declined to take florging off its

statute book, nobody on the mainland took any action. No doubt it was fundly hoped that either the sanction of lation hirching would fall into desuctude on the Manx courts would pronounce that, following the European Court's ruling, it was no longer feasible for the courts to pass such a sentence on an offender. In the

event neither way out of the

dilemma was taken. thoroughly inebriated on a cross-Channel steamer seriously assaulted a person on his arrival in the Isle of Man. The magistrates before whom the offender appeared were given copy of the European Court's indoment in Turer, but were harely instructed on the impliestions of ordering a Mirching. Since corneral nunishment had stoutly remained the law of the Isle of Man. and considering that it was an appropriate enalty to inflict upon the offender. the magistrates ignored the delicate legal and political consequences that would flow from their decision. and ordered the birching. The time of the Tyrer case in 1977

The proceedings last week of the Human Rights conven-before the Judge of Appeal for tion.

SOCCER

TREVOR BAILEY

judge of the Isle of Man began The appellant stated that he

wished to withdraw his appeal; ordinarily, if that happens the court formally dismisses the appeal. But that would have had the effect that the birching would go ahead, to the consternation of all those who de-voutly wished to avoid an international incident at all costs. But the court was able deftly to say that, once seized of the case which raised the issue meriod? whether the birching was even period? lawful, it was bound to con-sider the appeal, whether or not

the Isle of Man (Mr Benet The problem has however. The Commission went on to Hytner QC who hase been con-by no means gone away, be hold that severnments were ducting the inquiry into the cause the appeal court felt us bound to show respect for Moss Side riots) and the senior able to substitute what it parents philosophical convic-CONSTITUTIONAL convention, the Isle of Man (Mr Benet The problem has however, able to substitute what it thought was the appropriate penalty. Instead the court sent the case back to the magistrates with an indication that the penalty should probably be delention in an institution for young

> offenders. But what if the magistrates reject that advice and insist that corporal punishment is the only appropriate penalty, and one which in fact the offender. seems to desire rather than to have to undergo a loss of liberty, for however short a

While Manamen sort out their constitutional problems. Scot-

THE WEEK IN THE COURTS

BY JUSTINIAN

the appellant sought the flagel- tish

Curiously, this was a repeat of what occurred in the Tyrer case when the applicant at Strasbourg sought to withdraw his application. The European Court likewise declined to be fobbed off from condemning corporal punishment.

The appeal court judges in This summer a young Glast the Isle of Man were obviously wegian who had become not desirous of getting the polinot desirous of getting the poli-ticians off the hook. While they quashed the order of birching, they did not absoultely rule out. the reliance upon the penalty in the future.

What they said was that, so long as the birching law remained unrepealed (and no international body or court could repeal a Manx law), the magistrates could lawfully pass such a sentence. But they had first to consider all the alternative penalties available, and only when none of these was appropriate could they even begin to entertain the question of flogging. Even then, the magis-trates would have to be aware that in passing such a sentence arguments that raged at the they would in effect be putting time of the Tyrer case in 1977 the British government back in and 1978 were revived with the international dock for having again violated a provision

educationalists another pronouncement from Strashourg on comperal numbers ment, this time its use as a disciplinary measure in schools. Two children at St Matthew's Roman Catholic School in Bishopsbriggs and Beath Senior High School in Cowdenbeath respectively were suspended from school as a result of their parents protesting at the intended imposition of the tawse

on their offspring. Their cases were upheld by the European

Commission of Human Rights in May 1980 and referred the Article 2 of the First Protocol to the European Convention on Human Rights had been violated. This states . "In the exercise of any functions which it assumes in relation to edushall respect the right of parents

to ensure such education and punishment were considered as as expression of a morality

tions in state-run schools and the mere availability of altertive private schools did not detract from the state's phigations under Article 2. For both Anancial and practical reasons there were no other realistic and acceptable alternatives to the parents but to send their children to state schools. Since both children had not actually been beaten by lifeir headmanter there was little reliance placed upon the argument that birching is a degrading punishment. But one Com-missioner in a separate opinion recalled the Isle of Map case. adding that during the period Tyrer had waited for the punishment to be inflicted be suffered mental anguish; which was one factor that led the European Copet to conclude that

the penalty was a degrading punishment. The Commissioner noted the mixture of fear and hope, that anguished anticipating which not only degrades human beings but also seriously threatens the equilibrium of those who are at least as much as a firm hand to guide them and help them to form their personality. He would have found a breach of the guaranteed right not to be subjected to degrading punish ment, even for a threatened

infliction of the lawse. Will the European Court adopt that line of reasoning; cases to the court which heard and even if it does not, will its them at the end of last mouth, judgment lead to the beginning.

The Commission had held that of the end of corporal pamish. ment in the public sector of education?

Those who support the use of corporal punishment in schools. may take comfort from this excursion to Strasbourg. Article cation and to teaching, the state 2 of the First Protocol would shall respect the right of parents seem to be a European Meline against any British government teaching in conformity with in the fature that would seek their own religious and philoso to abolish, or sectionsly impair phical convictions. Genuine the right of parents to educate parental objections to corporal their children in private schools -with or without the use of

children at school sufficient to 2 E.H.R.L. qualify as a philosophical con-Campbell and Contents viction. Kingdom [1980] 3E.H.R.R.531.

KADIO 4 6.00 am News Briefing. 6.10 Farming Week. 6.25 Shipping Forecast. 6.30 Today 8.35 The Week on 4. 8.45 Wodehouse 9.00 News. 9.05 Start the Week with Richard Baker. 10.00 Naws. 10.02 Money Box. 10.30 Daily Service. 10.45 Morning Story. 17.00 News. 11.05 Down Your Way visits for Pleasure (S). 7.00 Shostakovich's '48' (S). 7.45 Havdn (S). 8.00 Frankfurt Radio Symphony Orchestra Lystelion with the Best of Jazz (S). 9.55 Sports Desk. 10.00 Pop Score 10.30 Star Sound. 11.00 Brian Matthew British Caledonian

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> Simply Great reappears in Friday's William Hill Dewlurst Stakes for which he is an assured favourite in spite of

admirably with fast bowling. It could well be that the packed defences and not very

coach's judgment was the out- scrupulous defenders. come of an inborn and unintentional ethnic prejudice. I IT MUST have been 15 years ago when I asked a former distinguished international player teams include at least one who was coach for a London black player but also many of them are among the best and First Division club, then termed a trainer, why there were no black players in his youth team. Fashanu, Anderson, His explanation was that, Hilaire, Moses. Batson and

although they had the necessary Regis, to name but a few. skill, they lacked the stamina, There are several reasons for required in a physical contact football.

First, a remarkably high per-This did not make much centage are naturally gifted sense then and seems even athletes with fine physiques, fast stranger now. After all, boxing, reflexes and flowing grace and through,

that most physical of all sports, rhythm. was and still is dominated by Edson Arantes de Nascimento, fighters whose ancestors came better known as Pelé, was surely from Africa. Many West Indian the greatest of all goal scorers. not infrequently, limited educational leabatsmen, such as Weekes, He scored 1,363 goals in his tion, to make a great deal of race relations.

parallel to and at least three, did, and to a lesser degree still feet off the ground.

does, encounter some hostility
Most of the blacks in League from the more stupid among the

> forwards like Crooks. in the countries from which the affitude, the abuse will

grandsons brought up in England who have made the break-through.

Walcott and Sobers, coped career when there was an money quickly. It is not so abundance of close marking, Finally it has always helped. especially in team games, for the good player to have easily distinguishable characteristics. He stands out and so makes it I particularly treasure an instant of Cunningham—a leftwonder what he thinks today footed volley at goal from a easy for selectors and the media when not only most League right-wing cross with his body. The black player regrettably The black player regrettably

most exciting around, Cunning football have above average ball away crowd.

ham, Fashanu, Anderson, control, whether they are My own reaction to barrackdefenders like Anderson, or ing was to make me even more determined and assuming the orwards like Crooks, determined and, assuming the Secondly, standards of football black footballers adopt a similar black immigrants came were not counter-productive. He will find high. It is the sons and the the majority of his team mates

> ethnic problems. In the long term the pr Thirdly, football provides the sence of an increasing number opportunity for a boy from a of outstanding black foot-comparatively poor home and, ballers in our League and international team should help

Wide choice of rackets is bewildering

TENNIS

JOHN BARRETT

THERE WAS A TIME when the simple decision to buy a new tennis racket involved merely the choice between natural gut and synthetic strings in a wooden frame from one of the half-dozen manufacturers whose ranges appeared in every reputable sports store.

The choice nowadays is bewildering. Big head or midhead; round head, oval head or pear-shaped head; graphite or wood, fibreglass or aluminium, boron . . .or perhaps, composite.

It has been one of the game's oddities that, until July, there have been no rules governing the size and shape of a tennis racket. However, exotic string-

RACING

BY DOMINIC WIGAN

sodden and wintry Ascot on Saturday and he must be look-

ing forward to 1982 with more

Although the Empery bay Paradis Terrestre, a tail son of the Songedor mare Pixie Tower proved head and

shoulders above his equally well

bred opponents in the Hyperion Stakes, bookmakers were not

Paradis Terrestre was immediately offered at 20-1 for the 2000 Guineas and there were few "takers." However,

interest continues to gain momentum in Warren Place's

other candidate for that race,

Simply Great. The Mill Reef colt is down to 7-1 with most

However,

CECIL introduced

high-class colt in Terrestre at a rain-

HENRY

another

than a little hope.

altogether impressed.

Cecil set for more wins

Rules were before the arrival of the jumbo rackets, for it is no accident that the overall dimensions of a racket have changed little over the century of the game's existence.

To hit a moving ball weighing

2 oz with proper power and control the average human being requires a racket that weighs between 12½ and 14½ oz, is about 27 ins long and contains a taught stringing system that allows him to "feel " the ball. Anything smaller or lighter

is too flimsy; anything larger or heavier is clumsy, The earliest rackets

one-piece bends of ash. The introduction of the laminated frame (thin strips of wood and fibre glued together) in the

tested maiden event in a poor time. Backers are clearly con-vinced that he is every bit as

good as homework reports suggest. That certainly was the

impression taken away by a

It could be quite a week for Cecil, for whom Paradis
Terrestre achieved another
century of winners. The Warren
Place handler is responsible for

both the first and second favourites in the Tote Cesare-witch in Military Band and

Tomaschek, and Critique in the

At Pontefract this afterneon Edward Hide, the country's most experienced Flat rider after

Piggott, should be seen to the fore in a number of races. His-best prospect is probably the

well-drawn Leg Glance, among the runners for the first divi-

sion of the Whitley Fillies'

PONTEFRACT

3.15—Dragonist** 4.15-Directorate*

Champion Stakes.

number of usually astrite judges on Cambridgeshire day.

lighter and more flexible.

increased without pulking the frame out of shape. Innovation began in earnest after the second world war.

Although metal rackets were nothing new, the steel frame produced by the French musketeer Rene Lacoste in the late 1950s was revolutionary. with the stringing system suspended from a wire wrapped around the head of the racket.

New manufactures have proliferated since 1968 when open tennis launched the world-wide tennis boom. They are skilled in the use of metal, fibreglass and the space-age materials. graphite and boron.

unusual shapes, thought by var some to offer unfair advantages. I that led to this year's rule to

_This

ing systems that imparted undue 1920s produced a stronger string distribution and simils amounts of spin were banned frame that could be made the overall frame length to 32 in, the overall width to 12f in String tensions could also be and the strung surface to 15 In inlength and 111 in in width. There seems to be general

agreement that the latest ove size rackets help the older players to get more balls into court. Even some of the dreuit professionals appear to have improved their perform ances with these models Perhaps in the end the mid-

head will be the racket of the future Certainly more manufacturers have entered this segment of the market, so the choice here is widest:

However, even the effects are confused about the permu-tations available, so before you buy your next racket I would advise you to persuade your The lighter, stronger materials advise you to persuade four allowed greater design flexities rich friends to lend you their bility. It was the advent of the word for an afternoon's ever-size heads and other trial Performances undoubtedly unusual shapes them. vary greativ

Personally I am too d to this year's rule to my graphite-reinforced standard size wooden frame to requires a uniform want to change



Romeo and Juliet

by MICHAEL COVENEY

with an odd grey splurge on it, magical effect in the Nunn pro-

sombre black flowers at the end. as Romeo decides to intervene

duction-is not done very well.

imbalance of strength between

the younger and older actors.

Trevor Baxter's Capulet is a

mumbled, colourless reading

and I could never make out

what he was doing married to

Barbara Kinghorn's svelte

society dame. Juliet is played

on a lisping monotone by Judy

Buxton, injecting minimal

variety into her poetry. The

love scenes are curiously

unerotic, despite a generous

display of Miss Buxton's for-midable bosom, projected

tantalisingly through a dia-

crumbles, too, after the promising start of the biting-of-thumbs ritual. The fights,

arranged by Peter Woodward.

however, are genuinely excit-

ing. The brawl is first of all

conducted with Japanese rigour.

until rapiers are drawn from

the combatants' sticks - this

Stephen Oliver's music. Those ing both public and private Hyde's early departure proves

garlands will be replaced by rules. Mercutio is killed just a sad loss of confident tech-

context

development, you feel, is break on his behalf and Jonathan

skinhead

phanous nightgown.

One reason for this is the

Architecture

Going for a Burton

by COLIN AMERY

be the kind of place where you talents included an early underwent to see displays of bricks standing of the nature of cast and tiles and proes and as many and Chatsworth remain remarkdifferent sorts of tap as you and thatsworth remain remark-could imagine. It is still a tural ingenuity. One of the most good place for learning more charming schemes by Burton is than you had imagined that you wanted to know about tricks of the building trade but it has or the binding rapid but it has acquired a new dimension.
Under the inspired auspices of the Building Ceofre Trust it has added architectural exhibitions to the range and until October. 22 you can encompass the career of the architect Decimus

Burton as you wander through the shower fittings.

It is a good small exhibition, put together by Philip Miller. and it plans to four the country. Decimus Burton was born in 1800 and he died exactly 100 years ago. He was the tenth son of the builder James Burton who was a good friend of Nash a handy contact for an appiring architect. He was only 24 when he completed the Colosseum in Regent's Park. This building larger than the dome of St Paul's, housed a mectacular nanorama of the City of London. The even-fickle British public soon lost interest in this nine-day wonder and desnite the constant addition of new attractions like a Swiss chalet and alpine gardens. Burton's edifice closed, although it was not demolished until

It is in London that Decimes Burton has left his most distingvished marks. He built Clarence and Cornwall Terraces in Regent's Park, the Hyde Park Screen and Arch on Constitution Hill, and that temple of learning and bad food, the

The Building Centre used to Athenseum Club. His great charming schemes by Burton is the small picturesque layout of houses on the Calverley Estate at Tunbridge Wells.

This exhibition is keen to point out that Burton did not found a school of architects, and seems to suggest that, although prolific. Burton was something of a follower of Nash. It is true he learned to mix the classical and the picturesque with great skill but I think it should have been pointed out how original and unpedantic he was as a Regency classicist. He kept a light touch on the Orders in a way that someone like the dreary Smirke totally failed to do. He never designed a pudding-like classical building, although his Gothic exercises

quick walk round Regent's Park where it is often forgotten that the hand of Burton is as important as the hand of Nash. The Building Centre is at 26. Store Street, London, WC1, and the Decimus Burton exhibition a tragedy, instead of a cornuopens from 9,30-5.30 weekdays and 10-1 on Saturdays

It is to be followed by two shows of architectural drawings. Manspace, a show of con-temporary architect's work from November 4 and from November 24 an important exhibition of Piranesi drawings. Both shows are of work for sale —just in time for Christmas shopping as well as a little riskfree investing.

Riverside Studios

Laurie Anderson

by ANTONY THORNCROFT

Laurie Anderson is a performance artist. Performance artists mesmerise audiences who sit there like rabbits caught in car headlights. For, if you are a performance artists, you can get away with anything. You are licensed to be peculiar, boring, uncommunicative, threatening. In fact to succeed you only really have to be different from

antertainment artists. What makes Laurie Anderson, slight lady who resides in New York and has punky hair, different is that one of her creations—for Vocoder, tape, flute, sax, synthesizer and handgestures -- called "O Superman " is likely to be the hest-selling ing superman in the country in a few weeks time. Thus the packed house at Riverside on conspiracy. The overall feel-Friday, where she takes the ing is like watching men on a stage bare but for a synthesizer building site, quite enjoyable if and a tape deck, with a set of you have nothing better to do,

to the set was proclaimed as Politics but any connecting thread was lost on me.

Instead the performances had moments of charm, mainly related to Ms Anderson's extraordinary compelling speaking voice which, modified electronically, soothes and calms. I would giveher many marks for content, but as she switches from violin, with a neon-lint bow, to microphone stand, to tape deck, she spreads a little imagination very thickly. The more personal items such as "Love Song" make you feel like a voyeur and the more popular. such as "Classified," are amus-

She is an elitist performer who draws her audience into a visual aids to back up her 21 but all rather detached and un-11 short musical scenes. The theme important.

Arts Council theatre directors bursaries

bursaries for ten directors to Laird with the Black Theatre enable them to further or Co-operative at The Factory, continue their training in the Maida Vale London; and Caro-professional theatre. Five bur-line Raphael, at Bristol Old Vic. saries have been awarded to . The associate directors are: trainee directors, and five to Lizzi Becker, with Plymouth associate directors, for a year's Theatre Company; Nancy work with a sponsoring theatre. Diuguid, at the Hampstead The trainee directors are: Theatre London; John Ginman. Danny Boyle, working with the at the Nuffield Teatre, South-English Stage Company at the ampton; Justin Greene, with

The Arts Council has approved the Theatre Royal, York; Trevor Royal Court London; Peter Paine's Plough a touring com-Fieldson, with Contact Theatre, pany; and Dion McHugh, at the Manchester: Jeremy Howe, at Coltseum Theatre, Oldham. Young Vic

King Lear

by ROSALIND CARNE

The mood of Lear is strangely ill-suited to this bleak, inhospitable performance space. Cosy comedy, satire, or musical, may overcome the horrors of the barn-like auditorium and justting apron stage. Anything larger than life is sadly diminished, as the pleas to Heaven bounce helplessly off the matt black.

Carl Toms' design has cut into the precipitous rake with a large hole in the centre of the floor. A golden map is stretched across the opening in Act 1, and Shakespeare's substance/nothingness dualism is emphasised from the start. Around the square, characters move with the slow precision and formality of a courtly dance. This works well but the unusual ground plan proves awkward in Acts 3 and 4, with Lear, Tom and the Fool cramped together in a tiny -comer.

are another story.

A visit to the exhibition the play to a mere $2\frac{1}{2}$ hours, should be combined with a Plot loses out to thematic content, which verges on overkill when narrative begins to feel like mere dramatic convenience or inconvenience. An extra half-hour would have improved the pace and perhaps provided copia of ideas.

Covent Garden

Jams Bolam, known to millions as the "Likely Lad" makes a respectable journey from folly to understanding, with the minimum of majesty. Presumably this is intentional. He should try again in ten years time, for the final scenes are beyond him, though he is not helped by a robot-like Cordelia. He is at his best in rage rather than madness, and in Judy Witson's Goneril he meets a worthy adversary. The "serpent's tooth" scene is imbued wth a sudden and terrifying intensity. Later, he touches on real pathos in his recognition of the blind Cloucester. Edward Hardwicke is solid

He might have been slightly padded, for, however good his body language, he has the firm well-shaped figure of a young man.

The joint direction is by and eccentric schoolmaster with

West Side Storu "rumble" and decorous fiesta, the scene enlivened with colourful gar-lands and swept along by

coat. looks altogether too his mind elsewhere, which, no swanky and youthful through- doubt, It was.

Dublin Festival—1

by sudden passion.

Aldwych

now serves for street scenes.

Capulet ball, the orchard and the church yard. It imposes a

literally flat dimension on Ron

Daniels's production from which

the show never really recovers. There is very little variety in

the angles through which actors

approach the stage and we are even deprived of a balcony.

The last RSC production by

Trevor Nunn was, by the time

it came to London, a harbinger

of the relaxed, intimate style

decessor. Anton Lesser's Romeo

is a compact street urchin, a sort of benevolent Ian Holm

figure surrounded by skinhead

factions but drawn to the respectability of the Capulets

The ball is a strange fusion of

Enter the Poles by B. A. YOUNG

Contemporary Theatre, was the hit of the second week of the Dublin Theatre Festival. Performances were scheduled for 8.0 pm, but it was better to suggest the preparation of arrive at the Gate by 7.15, when the director, Kamimierz Braun, gave an introductory talk to an audience that he rigidly admitted in batches of 24 at 12second intervals. Even at 8 o'clock you found the auditorium empty, the aisles roped off. Instead of taking your seat,

you were shown down a grim

back staircase and through a

dismal cellars of the abandoned dance-hall next door. There you were firmly conentire plans for the coming | ducted ("Don't smile, please!") round a macabre exhibition formances in four major Paris of items concerning the generatheatres, with nine differnt tion of life - a sinister scienprogrammes, extended show- tist in his lab, some artificial ings of three important classics, genitals, a "woman vessel" tours to Spain. Germany, with a naked woman in it, a London. With both companies mummified body mumbling and certainty of identity, sadly | bar where the bottles were all absent in the current plans, empty, you came to life itself. devised for the Royal Ballet, two young gymnasts dipslaying Not to set better goals for a their youthful vigour; and on

rehearsal." where groups of tiny dolls were enclosed in ice or buried in mould.

After this do-it-yourself theatre, the performance proper began on the stage. Not a play. Mr Braun insisted - a poetical essay about contemporary civilisation based on an essay by Tadeusz Rósewicz (printed in the programme in good English by Daniel Gerould). The first act consisted of a series of short. emotional events, mimed or spoken with a minimum of dialogue, by figures covering spectrum of modern Western life - a comfo-table family, a thief, a gangster, a room full of frightened people under an air raid. A little scene from Three Sisters found its way in, a moment from Conrad's Lord Jim. There was a sad scene of an old woman trying to sell herself for food: she is giver, and he jerks the spoon

away before she can begin. Unexpectedly, the houselights go up at one point and the need for bringing this play ciation.

to life." But the "play" goes on; the director comes down stage and speaks to us (in Fnglish) of the need to break through the crowd of faces that hems us in, to try to make individuals serve where numbers

are employed. A shorter second act concentrates Rosewicz's theme in one sharp image. We were again excluded from our seats, herded on to the stage or into the ton model of a tram or railway carriage. More and more people crowd into it until there are passengers on the luggage rack and hanging through the windows: and then again comes the appeal to the individual. It's hard to describe the

emotional effect of this bizarre performance. enough to say that the audience, bewildered at first by given a bowl of soup with a their curious handling, sat spoon that is chained to the transfixed with attention to what they saw and heard until the end, when actors came among us to repeat the message we had been given. Then they clapped and cheered, slapped someone reads the start of clapped and cheered, slapped Rosewicz's essay. "I have no the actors on the back and desire any more, or the neces- wrung their hands in a long sary energy; I don't believe in demonstration of their appre-



Natasha Pyne and James Bolam

Frank Dunlop and Andrew Robertson, The latter doubles as the Fool, played as a worried

The Royal Ballet

and convincing in this role at

first, in spite of a completely un-

convincing Edmund. Greg Martyn has let the bastard son

run away with him, and needs

strong, curbing direction. After

a promising start, his father fails

to respond to the demands of

is notably unmoving. Among the rest of these shadowy

figures, Michael Graham Cox is

The prevailing style of the

unnamed court is a kind of muted Cossack guard with sleek

black boots. Lear. with the

addition of a scarlet-lined over-

well cast as Kent.

the role and his reported death

by CLEMENT CRISP

pressed anger as Isadora re-

hearses; a callousness about

Not one character but has

most telling gestures; even the

debilitated hangers on in the final scene are "real" and un-forced in their brief moment.

The Royal Ballet is a peerless

prompts some uneasy thoughts

about the plans thus far

Yet the opening of this season

The new ballet season opened non, the detail of his playingon Saturday night at Covent Craig's nail-biting; the ill-sup-Garden with Isadora, somewhat pressed anger as Isadora reedited and tautened in tracing the tragic progress from girlish anything except his art-are enthusiast arriving in London tellingly shown, and he conto haunted, hennaed relic expir- trives to look very like the ing in a Bugatti. It remains young Craig (sans eye-glasses an uncompromising, striving but axec the physical beauty we theatre-work. I think that, after see in the early photographs). the fashion of Magritte's Ceci And with every role on stage we n'est pas une pipe. MacMillan witness the sensitivity of the ought to reject the programme's Royal Ballet as a dramatic coy subtitle "ballet in two acts" troupe. and declare "This is not a ballet." Rather is it an anti- vivid outline, life. I greatly ballet-or better "an anti-ballet- admire the way MacMillan and as-the-Royal-Ballet-understands-Rosaling Eyre fix Elizabeth ballet "—a quest in the main Duncan for us in the school successful, for a theatre form scene, with the slightest but in which dance is equal partner with drama and "production" in the broadest sense.

Mary Miller and Merle Park were again the two aspects of Isadora and potent. I thought ensemble of dance-actors.

Miss Miller somewhat too cool Yet the opening of this in the first act. But with the catalogue of sufferings in Act 2 she is tremendous and, pace announced for the company. I Miss Park's intensely musical do not ever before recall a portrayal, Isadora to the life in drearier schedule; nor a reperthe Marseillaise. The excisions tory so grievously lacking in and elisions of the text are stimulation in works projected mostly in the second act: Caplet and casting (for those ballets ias gone, as, too, the second which the management can con Russian railway scene; there is trive to cast in time for public some curtailing of other inci- information: one entire prodents—notably the Gance by gramme in December bears the Isadora's lovers during the phrase "casting to be accouchement of her third child, announced.") The unenterpris-(Alas, the rumbustious Wawswa ing and predictable seem the troupe-funny but too carica- rule. In a period covering 17 tured—is retained). All these weeks—over one-third of the cuts help the momentum of the entire season—the same routine piece which-idealistic as Isa- ballets from recent years return dora herself-does not, what yet again. The only novelties ever its critics say, minimise its are a long overdue revival of a heroine. It suggests, very Napoli divertissement, and the clearly something of the crucial appearance of Ashton's 30-yearinterdependence and conflicts old Illuminations, which the between her art and her Joffrey Ballet restaged a couple sexuality.

Of the nineteenth

One important cast change century classics, the bed-rock of brought David Wall as Craig, a the Royal Ballet; we shall see role intended for him, but but six performances of The denied him because of injury. Sleeping Beauty. Of that "en-His clarity in dramatic projection couragement of young artists"

which has been to my mind an illusory claim as policy during the past three years, little indication, and certainly nothing to young ballerinas and premiers danseurs (and "young mean in the very early 20st in the essential challenges of the traditional repertory. In a comparable period this

year, the New York City Ballet is offering a reperiory of over 50 ballets in a schedule of eight performances a week, and can already be assured that at least dark garden into the dank and 90 per cent of performances are sold out. Two months ago the Paris Opéra announced its season: these inolve ballet per-; there is a feeling of purpose, about regeneration. Through great national ensemble is to the way back to the auditorium fail a notable roster of artists. I was a model labelled "The first

Wigmore Hall

Fitzwilliam Quartet by ANDREW CLEMENTS

For Friday's Wigmore Hall major key; his only other when a brass choir would seem Schoenberg's Verklärte Nacht at concert the Fitzwilliam Quartet attempt at chamber music had to be implied, there is a pizzi- one point in the great Adagio. was joined by the violist Carolyn Sparey in two of the most expansive and elevated string perience, in the instrumental quintets in the literature, writing however, While the cast Mozart's C major quintet K515 of the themes, the way in which and Bruckner's in F minor, climaxes are inexorably pre-written in 1879. The Bruckner pared and discharged, the slow is not heard very often. It is a momentum of the harmonic fully mature work, composed between the fifth and sixth symphonies and sharing with

been a string quartet, completed cato passage in the first movein the early 1860s.

There are no traces of inexably Brucknerian, hte scoring is Schubert above all and even it has. But throughout the evennearer that of orchestral music hints at Mendelssohn: there is ing the Quartet did not seem to them its optimistic tone and writ small. There are moments also a curious pre-echo of be on its finest form.

It's a work that few presentment that would register more day groups have taken into their effectively were it played by a repertury. One hopes that the section of cellos rather than one. Fitzwilliam will continue to play but the transparency and it; on Friday, some rough edges warmth are wonderfully and awkwardly shaped parasustained. And where in the graphs suggested that their symphonies the influences of interpretation is still settling Beethoven and Wagner are most down and that the music will movement, are all unmistake- obvious, the quintet suggests sing even more cloquently when

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- 27 Periodical issue of pain 20 Serving a sentence with 23 Bee-hive nominally safe conkiller (6)

- part of race (3, 2) II Frank attitude not expected
- 12 He-men resistant to hospital (5, 4)

- French find fit to drink (7) 18 Right about investments (7)
- 24 14 Confused worker second 25 Not the town for female run-
- 26 One boy I included in epic 19 Severe critic of alternative 21 Set dog on worrying heavy

- 28 Personal appearance in the stormy rep scene (8)
- DOWN I Wrath rumed Frenchman in
- heat (6) 2 Displeased when put out of
- action (9) 3 Not quite one of the big guns
- for school to sack (10, 5)
- 4 Puts down one kind of levy followed by others (7)
- 6 362636 are essential figures (5, 10)
- 7 Force away from the others in sound (5)
- 8 Record superior find (8)
- 9 Give up drink with chops (4, 2)16 Two pubs Scots boy finds
- 17 Squash husband organised with reporter (8)

uncivilised (9)

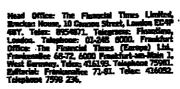
to Thatcher (6) right person in secret (7)

pudding (6)

tains poison (5)

The solution to last Saturday's prize puzzle will be published with names of winners next Saturday.

FINANCIAL TIMES



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Monday October 12, 1981

Agenda for the Tories

OVER AT least the past decade Britain has suffered from two main economic problems: low growth and high inflation. Other countries, France, for instance, have had the inflation, but have managed to achieve growth at the same time. West Germany has had relatively low inflation and relatively high growth throughout the period, and indeed for most of the last 30 years. Britain is unusual in having both economic diseases simultaneously.

Less competitive

It was this problem which the present Government came to power determined to resolve. In the words of Sir Geoffrey Howe, the Chancellor of the Exchequer. the task was " to halt and then reverse the long decline." The decline may have been relative, but the fact was that Britain was becoming steadily less competitive with other industrialised countries.

The Government also made clear from the start its chosen methods: it eschewed controls, whether on wages, prices, dividends or the movement of capital. The experience of the past was that controls provided shortterm palliatives, but no lasting solutions.

This Government's approach was to rely on a mixture of market forces and exhortation. Above all, it sought to bring about a change in expectations - an appreciation of the fact that there are limits to the extent to which governments or companies can go on spending money which they do not have and do not earn. Such an appreciation is much more common in (say) Germany: in Britain it has to be taught.

Valid as ever

For a variety of reasons, the task has proved more difficult than was foreseen. The Government inherited a range of commitments to increased pay in the public sector. The oil price rose almost as drastically as it did in 1973-74 and the world recession has been deeper and longer than expected.

No-one foresaw the volatility of the exchange rate as sterling became a petro-currency. No-one anticipated what amounts to an interest rates war across the Atlantic. It is also probably the case that, in voting for change in principle, the electorate was not entirely prepared to take the necessary medicine.

And yet, nearly two and a-half years later, it seems to us that the Government's original objectives are as valid as ever. The fundamental economic problem of this country remains a lack of international competitiveness, of which low growth and high inflation are the symptoms. The job of government is to persuade the people that this is so, and to tackle the problem at its roots.

This Government has, of course, made many mistakes. It was foolish, in retrospect, to increase inflation in its first year by raising VAT. The effect on expectations was precisely the opposite of what the Government wanted. It was just as unwise to cut direct taxes before the compensating reductions in public expenditure had been secured — as President Reagan is now finding in the U.S.

Key element

There have also been numerous errors in the way policies have been presented. It is remarkable that the Government should have allowed itself to be labelled exclusively monetarist, even by some of its own nominal supporters, when the central tenet of Sir Keith Joseph's thinking is "monetarism is not enough."

The control of the money supply would be a key element in the economic policy of any administration. So would the control of the public sector borrowing requirement, whatever a new government might do in its first carefree year of office. It is this Government's own fault that it is stuck with the reputation of being rigid when frequently its actions are not much different from those of its predecessors.

It is the same with public expenditure. The Government's critics, again including Conservatives, overlook the money that has gone into the British Steel Corporation and BL, or is now pledged to relieving youth unemployment and encouraging industrial training. The Government has, in fact, been the victim of its own rhetoric. It has spent money as if it were ashamed of it. and thus failed to draw any credit for it.

It has also shown, however, that it is capable of correcting its course. Sir Geoffrey's budget last March restored some fiscal balance by taking back in taxes what had gone in excessive public spending. In his television interview yesterday, the Chancellor rightly hinted that he will be prepared to do the same next time, if spending is not controlled. This is not the inflexibly monetarist administration that is sometimes portrayed.

The Government's other assets owe something to recession, but exist none the less. Unit labour costs have been relatively stable and productivity has consequently increased. The size of pay settlements has been coming down, both in the public and the private sectors. Inflation is still a danger, but it is lower than most people would have predicted a year ago. The attempt to influence general expectations seems to be working.

Market economy

At the half-way stage, when politicians and the media start thinking of the next general election, no-one would suggest that this is an ideal situation. Yet it is one on which he Government could successfully build. There are certain themes which could be usefully taken up.

Mrs Thatcher's team has too often given the impression that it is interested only in the performance of certain economic indicators — as if the economy were a model rather than a collection of people. What has been missing is the element of compassion. It has been the market economy that has been presented rather than the social market economy of Ludwig Erhard. The latter deliberately provides a safety net for the disadvantaged and the unemployed. It would be entirely compatible with this Government's approach and with the pursuit of growth without inflation.

There are areas, such as the power of the unions and of the nationalised industries, which remain to be tackled. The decentralisation of wage bargaining, for example, could be taken much further. The Social Democrats have already shown what a popular theme this is. Equally, the Government should adopt a less restrictive attitude towards viable public sector projects which could be financed with long-term borrowing.

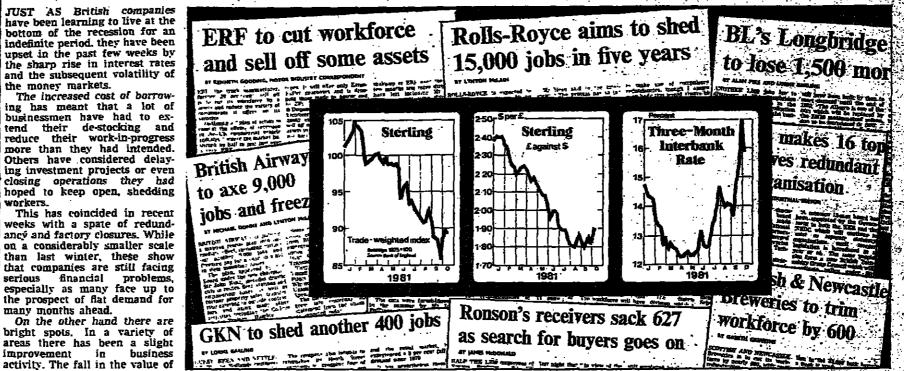
Such changes can be accommodated within the

Government's present strategy, the crucial question, how-ever, is whether the progress so far made in changing attitudes and expectations can be maintained. The Government has yet to convince the electorate, including many of its own supporters, that a permanent reduction in unemploymet can only come from changes in competitiveness, not from reflation.

BRITAIN IN THE RECESSION

Blighted hopes of a revival

By John Elliott, Industrial Editor



last week, stressed his belief that the worst of the recession was over, a point which industrialists believe is unjustified.

The issue turns on the definition of recession. As Mr Trevor Holdsworth, chairman of GKN says: "Our definition now is operating at too low a level of activity continuously,' whereas it used to be simply a 'downward slope.'" On that definition. businessmen quarrel with Mr Jenkin as well as resenting the attempts by Sir Geoffrey Howe, Chancellor of the Exchequer, to write the recession off at the end of July.

But, like many industrialists, Mr Holdsworth does acknowledge that life has improved so that "people can now see much more clearly where the bottom the recession is and are adjusting to it." In Scotland the new regional chairman of the CBL Mr Jim Goold, a house builder, openly admits he wants to talk businessmen into the mood of confidence that could help raise demand: "Scottish businessmen must take a little bit of a risk now and push their way out of recession," he declares.

What is causing special concern, however, is the spate of announcements of closures and redundancies in the past few weeks. The most dramatic is probably BL's total of 3,500 planned redundancies and Rollsoyce's long-term plan to shed 15,000 jobs over five years. Other companies are taking action which they may have hoped earlier in the year could

• GKN, having carried out major restructuring exercises in the past year with substantial redundancies, has been forced by flat demand to shed another 400 staff in its fasteners division.

ing declared himself the spokesman for industry in the Cabinet commercial vehicle industry's

stocks and its range of components, and taking other action earlier cancelled expansion plans and put people

on short-time working.

• Lucas Electrical, having declared 5,000 people redundant in the past 16 months in response to lower demands for its goods, is aiming to make its remaining business more effi-cient by shedding 800 nonproductive staff and service

These are a few of the cutbacks that have shaken confidence in various regions. The loss of more than 2,000 jobs ties in order to secure the

slump, is cutting its workforce that individual boards of by 20 per cent. slimming down directors are deciding that they have had enough and need to get out of a specific business area because the demand they had hoped for in the summer has not materialised. "The biggest effect at present is on the morale of board members which recently," one banker told me.

for the cutbacks is that many companies are nearing the end of their financial years (about 70 per cent of the corporate sector finish in December and March). Those with problems may need to trim their activiannounced in Scotland the week necessary bank support, thus

> 6 Only a slight tip back into recession might lead to large closures 9

before last; for example, caused making the next few months a concern, even though it was stantial orders for companies such as John Brown.
The main question is whether

the closures and cutbacks are merely the last stages of the recession or whether they herald a new slip downwards. One develop in the next few months suggestion aired by some busicompanies now have to face a the increase in interest rates.

There does not appear to be

any evidence of this so far, although last week Barclays Bank did appoint a receiver to L. B. Holliday, the Huddersheld producer of dyestuffs.

But there is evidence, as the recent announcements show.

specially sensitive period. In addition, the Govern-

ment's short-time-compensation scheme is nearing the end of its current phase; companies are afford to keep.
But whichever way events

nessmen is that banks are taking new and worrying problem with a tougher line with their heavy the volatility of interest rates, what some companies fear borrowers, especially following Some—especially large con-could become a widespread cerns like ICI-have expertise and resources which enable them to cope with the problem. But for most companies the volatility is extremely unsettling, especially when cash is

short and demand flat The board of one major engineering company is meet-

ing this morning to discuss two investment projects totalling about £3m put up by sub-sidiaries. Its chairman told me on Friday that one might be shelved because of the high cost of borrowing, even though the company itself is liquid and is probably gaining rather than losing overall from 16 per cent base rates. But the board's decision will be complicated by the recent falls in world-wide

But while most companies are still only talking about delaying investment programmes because of high interest rates, Calling for many have stepped up the rate of destocking in order to save major projects money. This is the most serious impact especially fol. For this reason individual lowing the second 2 per cent industrialists especially in the base rate rise 10 days ago, be engineering industries are callcause it is blighting hopes of a revival of demand.

There had been widespread reports of destocking gradually slowing down at the end of the summer. Now numerous companies are saying that they will have to go further, maybe continuing destocking well into next year.

The low levels of stocks, and the allied low levels of activity. are also creating problems for companies with new orders. One company which has just secured a £2m crane order is already running into bottle-necks of materials and components because its suppliers have run their businesses down

This is an early example of problem when demand does pick up. They will go back to their businessmen to the suppliers and subcontractors expecting instant ser-vice. Often they will find, how-ever, that businesses have been at the bottom of the recession slimmed down so far that such service is not available and that then spark off more retrench-British industry, even though it ment.

against the dollar has been far more mired and as now being partially effect by the pound climbing again. Relatively lew companies say that it has had a marked impact on their re-celpt of urders. (Some of course have lost because of the impact on the price of imported raw materials.)

The gains have also been thinked both because of the long lead times on many contra and because a lot of British exports are invoiced in European currencies against which sterling has fallen less than against the dollar.

Companies which have gained already, again in dollar markets, have been those with instantly available goods to sell addition some others in the process plant field, for example have reopened negotiations they had abandoned, in the hope of winning business.

But what industry really level of sterling but a revival of demand. For the past comple of years in particular, com-panies have been slimming down their operations, and gear-ing themselves up for what they have constantly regarded as the shock of very little recovery has been serious in the past few months and is frustrating managements. It is as if you designed a car with a magnifi-cent gearbox and then no one would instal the clutch," says one industrialist.

ing for the Government to go ahead with major projects like railway electrification, the Channel munel or the shelved gas-gathering pipeline rather than cutting the National Insurance Surcharge.

The CBI is pressing (with Mr Patrick Jenkin's support) for the sprcharge cut because it believes this is the best bet politically But many companies would rather see the prospect of firm orders for large-scale projects which might encourage them to delay any redundancies or closures.

"We don't want consumer led demand but we do want the Government to enable the companies we have put into good shape to reap their productivity gains by starting on major capital projects" is the sort of demand now being ment. Otherwise there is a fear may be shaken and this could

Men & Matters

Bonhomie and Clydebank

many months ahead.

sterling has had some impact,

though this has more often en-

abled companies to improve their profit margins than to

secure extra foreign orders. But

even without gaining much from

the movements in sterling, several companies have some-

times surprised themselves by

landing substantial overseas

orders recently.

If interest rates stay high,

they could tip some parts of in-

dustry into a new recessionary

major industrial region from

Scotland to the north-west,

north-east and the west Mid-

lands are discussing this pos-

There are a lot of people

here whose security is on a

knife edge - only a slight tip

back into recession might lead

to large closures," says one lead-

In Scotland, where optimism

has been generally stronger

during the recession because of

its strengths in oil and elec-

tronics, and the fact that its

structuring 20 years ago, I was told: "The risk now is that good

companies might go under this

winter. We've not had a major

company lost in this recession

soon lose that record." Engin-

eering companies and carpet

manufacturers are thought to be

the banks base rate from the

present 16 per cent level might

start to rebuild industrial con-

fidence at a crucial time.

Some people are openly try-

ing to talk the economy into a

more buoyant mood. Mr Patrick

Jenkin, Industry Secretary, hav-

On the other hand, an early

specially vulnerable.

- Weir was saved. But we may

industries started re-

ing north-west industrialist,

Strengths in oil

and electronics

Businessmen in every

slide.

No news is good news, they say and it certainly helps to explain the absence from the headlines these past 18 months of the Clydebank shipyard whose troubles were an almost permanent feature of newspaper pages for the previous decade

John Brown's yard, as it was originally known, had a dis-tinguished past as builder of the Cunard Queens and many more famous ships. the decline of the industry quickened in the 1960s, it became part of the Labour Government-merged Upper Clyde Shipbuilders.

But despite the £3.5m champagne bottle of public money with which it was launched in 1968—and many a magnum after—the project sank quickly into more troubles until an unympathetic Heath Government abandoned it in 1971, one of the first of its "lame ducks."

The Jimmy Reid-led "work-in" followed, lasting 15 months until the U.S. Marathon company took over the yard in late 1972 to build oil rigs. But losses, redundancies and indus-trial troubles continued. The yard was saved from closure by the Government in 1979 and sold to UIE Shipbuilding, a sub-

sidiary of France's worldwide

AMREP group last year.

Things have changed remarkably since. UIE came in determined to restore the yard's pride of place in the community and to identify itself with the local people.

It has done so by a sensitive

handling of industrial relations with the yard's 750 workforce, and a co-operative involvement in every aspect of the town's life. "Our acquisition of the yard," says AMREP president. Andre Miller, "is a success story"—and it is to be marked today by the presentation to UIE of the 1981 Whitbread-Laurent Perrier award for outstanding contributions to Anglo-French relations.



the Opposition....

Local Labour MP Hugh McCartney, who nominated UIE for the award, says: "They have restored the confidence and morale of the people . . . The French nation has no better ambassadors."

New ventures

"I really do believe there is a new spirit about that the entrepreneur is being born again," says Simon Chantrey. "There is now a need more than ever before to assist local entrepreneurs and to invest in indigenous industry," Peter Car-

michael echoes.

At opposite ends of the country this weekend, the two men have been preparing in different ways to give a personal push to enterprise.

Scots-born Carmichael, joint Livelier times are promised for

UK managing director of American electronics group Hewlett-Packard, is joining the Scottish Development Agency to take charge of its new ventures unit. His brief will be to develop the . owners Courage found equally SDA's business advisory ser-

vices, encourage new electronics developments in Scotland and attract inward investment.

A physicist and former design and development engineer with Ferranti, Carmichael's 16-year career with Hewlett-Packard at South Queensferry has made him one of Scotland's bestknown industrialists. He made his initial mark with the devel-opment of equipment for testing microwave communication systems which won the Queen's Award and has since grossed over £30m for the company. He is now implementing the third major expansion of the company's Scottish plant since 1966. Carmichael will retain links

with Hewlett-Packard With plans to help do the same for the more prosperous South-East of England, in particular, Simon Chantrey has resigned as assistant director of corporate finance at Barclays Merchant Bank to set up his own Venture Advisers in

Woking, Surrey. A chartered accountant with previous spells at Schroder Wagg, and Williams, Glyn as well as a two-year secondment to the National Enterprise Board, Chantrey believes the small business scene is begin-ning to fizz with ideas and energies in a way that has not

been seen for many years.

He intends to help promote the change by offering merchant-bank type advisory services to fledgling businesses.

"Smaller and local businesses." men just do not get the advice they need. The merchant banks they need. The merchant cames are fully occupied with larger companies and have little time or interest for the smaller end of business," he says.

Opening bars

the Redcliffe, for years one of the dreariest as well as biggest pubs in London, a decaying mausoleum in the Fulham Road whose £75,000-a-year turnover

Tomorrow its name changes to Carlos 'n' Johnny's and so does its ambience—it is being promoted as the capital's first "singles bar," seeking to attract from the thousands of bed-sits in the streets around the custom of girls who find pubs daunting and young men who find girls

Courage has let the place to Alan Lubin and Roger Myers, a team which has already proved it knows what the younger market wants by opening Peppermint Park and Coconut opening Grove, restaurants with a joint turnover of £3m a year. Expectations run high.

concerned say they will be dis-appointed if first-year sales are less than £500,000 and are already talking about conventing more pubs to singles.

But C 'n' J's will have no lavish launching party. Lubin

and and Myers discovered when opening Peppermint Park that parties cause problems. On that occasion all the order slips were blown away by a breeze through the kitchen and guests wanted for hours for their meals.

Going for broke

Stockbrokers Laing and Cruick-shank, whose economic fore-casts provide some of the gloomiest reading in the City, are looking for a new economist now that Malcolm Roberts is leaving to spread his doomladen messages of decline and depression from a desk at

Lloyds Bank.
Hardly surprising for a firm
that is habitually pessimistic
about everything from gdp
prospects to sterling M3, and has persisted in a strong neo-Keynesian critique of the office, the company's advertising appeal has attracted a string of applications from another institution not well-known for its sunny economic disposition, the Treasury.

Observer

Cutty Sark Scotch Whisky



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FINANCIAL TIMES SURVEY

Monday October 12 1981

OFFICE EQUIPMENT

New technology and shifting economic circumstances are bringing rapid changes not only in office working methods but also in the nature of the work being done. Many of the latest technical developments and systems will be highlighted at this year's International Business Show at the National Exhibition Centre, near Birmingham, from

Tuesday, October 20 to Thursday, October 29.

Era of rapid change

By Guy de Jonquieres

FOR MOST of this century office organisation and methods have undergone only gradual and subtle change.

While mass-production and automation have profoundly transformed manufacturing industry and the lives of those employed in it, many office workers are still doing jobs that differ only in detail from those performed by their parents and grandparents.

Office equipment has also followed a broadly evolutionary Until recently product innovation was aimed at improving the efficiency with which a particular task was done rather than altering its essential character.

Thus the plain-paper copier. has superseded the stencil re-typing duplicator, the PABX has Electron succeeded manual telephone switchboards, and tape recorders

lished pattern. New technology, stimulated by and in turn stream of electronic pulses stimulating shifting economic composed of zeroes and ones. circumstances, is changing both office working methods and the nature of the work done.

The starting point and to a large extent the driving force is the micro-electronic revolution. The low-cost silicon chip, manufactured by the million, is increasingly replacing gear-wheels, levers and drive shafts. Tireless and almost trouble-free, the chip can perform endlessly repetitive tasks with far greater precision and reliability than machines with moving parts.

But the chip is more than just a substitute for machinery: it also extends the range of human effectiveness. example, the executive with a desk-top micro-computer has more power at hand to process and store information than can be provided conveniently and

at equal cost in any other form. Similarly, electronic - wordprocessors enable changes to be made easily both to the content of a document and to the format in which it appears. Individual words can be corrected, or lines omitted or the sequence of whole paragraphs re-ordered without the need for laborious

Electronics are transforming not only the techniques for processing information but also

combining to break this estab-speech in exactly the same form fished pattern. New techno-as computer "language"—as a

The most modern telephone The past year has seen the exchanges, such as Britain's commercial introduction of a System X, are simply specialised computers which switch traffic through electronic circuits and are themselves controlled by computerised instructions stored

Performance

The process also works the other way. The introduction of digital communications systems makes it practical to link together in networks computers which previously operated as self-contained units. The performance of a single computer thereby greatly expanded.

The practical implications of this convergence of computers. and office communications equipment around a common electronic core are far-reaching. imposed by time and distance are paling into insignificance as Machines, it becomes possible to process information rapidly and trans- begun mit it instantaneously to any

perform several. Copiers, as well as duplicating sheets of paper, can reproduce diagrams

A personal computer used as a word-processor can be refinancial modelling.

number of still more ingenious products and systems. Xerox of the U.S. has launched an advanced "professional work-station," known as the Star, which not only has great processing power but can also be manipulated almost as easily as a pencil and paper to compose text and prepare high-quality

graphics on a display screen.
It belongs to the same philosophy which has inspired another Xerox development. Ethernet. This is a so-called local area network-a length of coaxial cable to which different pieces of electronic equipment can be attached.

The network provides a highspeed communications channel carrying information between a number of terminals in the same

between International Business Comsat and the Aetna insurance group has operating a service which uses satellites to trans-Moreover, machines which calls and vast amounts of comwere previously designed to puta data between rooftop perform only one task can now aerials which can be installed

Operated by Satellite Busithe means by which it is trans- or text stored in their electroness. Systems, the service mitted and distributed. The tronic memories and send them enables information to be conlatest digital communications over the telephone line to other veyed at speeds far higher than

Among the new products being launched at the International Business Exhibition is the Kalamazoo K-1500 microcomputer, designed and manufactured at Northfield, Birmingham. A support specialist, above, trains

tional telephone network. It tronically to an executive's can be used, for example, by a manager in Houston to gain instantaneous access to a computer in New York, or it can provide a televised conference link between businessmen in Los Angeles and Chicago.

IBM and Delphi, an Exxon subsidiary, have developed powerful systems which can store voice messages electronically tones on command. One of their uses is to record telephone calls made overnight or to a subscriber who is temporarily

They can also transmit "voice CONTINUED ON NEXT PAGE

an operator to set up the system which has a wide range of accounting applications. Kalamazoo is "jubilant" over the large number of pre-launch inquiries for the system is possible through the conven- point in a message sent elec-

Service bureaux

Communication systems

personal terminal. Developments such as these can easily give rise to visions of the all-electronic "office of the future," in which paper as a means of communicating and storing information is abolished Several companies, including and managers use personal terminals to perform most of their executive tasks.

This vision is actively encouraged by the many menutacand reproduce them in life-like turers and suppliers who compete to offer techniques and equipment for assembling "integrated information sys-tems" or "electronic offices." But the electronic office is—at least in the terms in which it notes," spoken commentaries is often enthusiastically des-which highlight a particular cribed—still closer to concept

Smaller computers Reprographics France Word processors Germany Software suppliers Information storage Marketing Vending equipment Local networks Dictation machines Mobile communications Commercial buildings XVIII

VII

Staff relations

XIII Furniture trends

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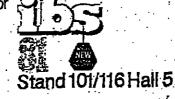
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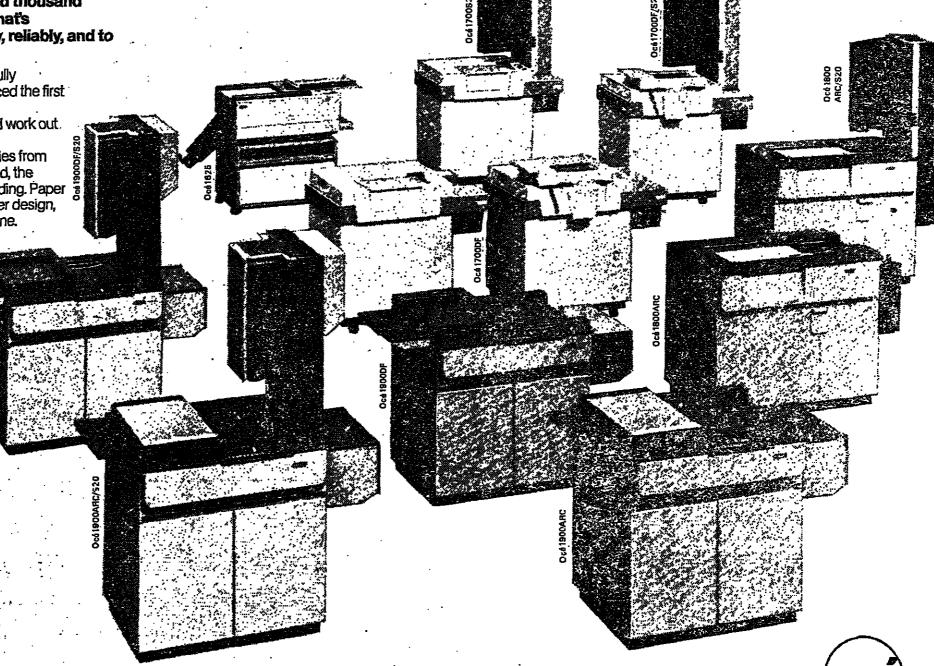
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tor of strategy at Nexos, the

Delphi Delta computer is the first system to bring together the power of a digital private

means the only manufacturers working on the transmission and

processing of voice just as if

proprietary local area network,

Wangnet, and Haseler with its

It also illustrates from a novel

point of view how the office

revolution is influencing the old

argument of mainframe com-

puters versus distributed pro-

cessing on small computers.

point that computing power

used to be costly but is now

Silk system, are among the early leaders in what is a key

area in office automation.

was data. Wang, with its

Mr Christopher Ellis, direc-

stantially

Voice is much more com-

and requires sub-

MACHINES (IBM), the world's system, announced in San Diego leading manufacturer and supplier of computer systems. plier of computer systems, and Delphi Corporation, a U.S. manufacturer of large specialised computers, last month announcements within fastest. hours of each other that should have an important influence on the development of electronic

computer-based systems designed to record, store and forward vocal messages.

The IBM development, Audio Distribution System (ADS), turns the human voice into binary digits, the universal language of the computer, and them on magnetic memory discs.

disc memories are attached to, and controlled by, a minicomputer, the IBM a mini Series 1.

The offering from the Delphi Corporation, an offshoot of data Exxon, is already quite well widely known because of the publicity messa the company received through its association with Nexos, the State-backed office equipment



The world's largest-known concentration of computer power under one roof, located at McDonnell Douglas at St Louis in the U.S. The building houses £130m **worth** of IBM control data computers

runs on the Delphi Delta computer, one of the world's

It can handle around 240 million instructions a second; by comparison, the largest commercially available IBM main-Both companies announced frame computer, the 3081, runs automatic branch exchange and computer-based systems deat about 10m instructions a multiprocessing computer. at about 10m instructions a second.

The IBM ADS will cost be-ween \$115,000 and \$235,000 for a system accommodating around 1,000 users. The Delphi computer costs around £200,000 in its most basic form, but it can cost up to £1m or more.

Voice store and forward is the next logical step in the development of electronic office

It has been possible for some time now to store and forward messages through widely-available _ data message switching systems. With the advent of systems like Xerox's Ethernet and the Star work station, diagrams and graphs have been added to the

It made sense to install the largest and fastest computer one could afford on the grounds that the cost of computing, per unit of work, was less with a large machine than with a small

The development first of minicomputers and then micromarkedly changed that thinking. Systems designers began to work on putting computing power where was most needed—on the desk of the manager or executive, rather than in the computer centre.

Most of the devices needed in the office—executive computers, processors, facsimile machines-fitted the mini-micro pattern better than the main-

But the old ways took time to change. The earliest wordwere shared logic

What's the greatest leap forward in typewriters

since they went electric?

and keyboards were linked to a single central processor and a single print station.

the trend is towards shared resource systems, where a number of work-stations, each with its own powerful microsor to carry out tasks such as running word-process-

BIGGER COMPUTERS

ALAN CANE

together and to an electronic work-stations are relatively inexpensive, while the

memory and printer are still

high capital cost items. Where does this leave the conventional large computer? In IBM's view, at least, it is still an essential part of office systems planning—at least for This turns essentially on the those companies big enough to have their own mainframe

already IBM argues that the important elements of office automation are the capture, distribution retrieval of information. Capture is the responsibility of the intelligent terminal. Those associated with the IBM 8100 information processing system, for example, carry out data

capture. But, IBM argues, if documents created on one of these ter-minals are to be distributed from one place to another there has to be a central directoryone which indicates where people, rather than devices, are

IBM says this differentiates electronic its approach from that of Xerox with its Ethernet local area networking system, where directory resides in one of the devices attached to the net-work which knows where all the individual devices are located. The index for information a filing and retrieval is best stored

It points out that the kind of data storage envisaged for the office of the future is very large indeed, perhaps three or four times as large as the largest data bases now in operation. This requires massive 3 U.S.A. amounts of disc storage, and economies of scale mean it is 4 U.S.A. run massive 5 hierarchical disc storage on a 6 mainframe.

Information 7 IBM's 8100 System and its Displaywriter 8 word-processing system designed to stand alone or to 9 U.S.A. run on the back of a host 10 mainframe. The Delphi Delta 11 also functions as a central control point but in a rather 12 different fashion.

The Delta is not a single monolithic computer in the style of an IBM 370/158 but a 15 combination of microcomputers 16 all working together to give the system its impressive perform 17 U.K./U.S.A

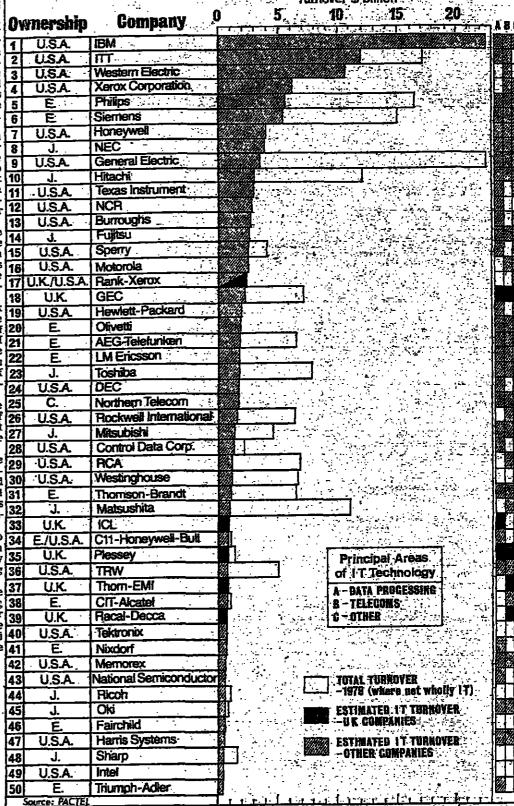
manage the Delphi had to devise a machine which could support a lot of 20 disc storage (just as IBM 21 argued) and provide massive processing capacity and high 22 bandwidth to accept lots of 23 messages received simultane 24

But it was not simply a desire 2 to work on the far frontiers of 26 data processing technology that provided the impetus for the Delta system.

The objective was to automate so much of the human operator's work that he or she would 30 be free to provide the essential 3 hand-holding" for subscribers that fully automated switchboard machines cannot.

Mainframes can be used to 34 run the data base for viewdata applications, where a company sets up its own system running 36 on its own in-house computer. The conclusion seems to be that, just as in data-processing 38 itself, there will be a place for computers of all sizes in the office of the future. The mini 40 and micromakers will not have 41

The world's 50 top companies in information technology



Era of rapid change

CONTINUED FROM PREVIOUS PAGE

The necessary technology is available to create a working loes not guarantee the ability to convert it into readily marketable products that meet real That lesson has been emphasised by the disappointing results of British Telecom's attempts to build up a mass market for Prestel, its viewdata information service.

There is also a danger that ingenious equipment for processing information will be viewed as an end in itself rather than as a tool. The value of any tool lies in its ability to do a job and the proficiency of the person using

But it is tempting for engincers to become carried away by the cleverness of their designs and to forget that the resulting product will often have to be operated by people with little technical skill or inclination.

There is no shortage of studies pointing to the poten-tial gains in productivity through office automation; but the reliable evidence available so far suggests that maximising

these gains requires careful tion and functions of say. a planning, organisation and branch of an international bank management.

Management national sultants suggests that the successful introduction of wordprocessing not only permits but requires important changes found that some companies can improve efficiency at least as much by grouping typists into pools and ensuring that they receive an orderly flow of work by installing electronic textprocessing equipment.

Improvements in productivity have been found to vary widely according to the type of work. They are, not surprisingly, biggest for repetitive tasks like preparing reports and smallest for one-off jobs like composing individual letters.

Moreover, no amount of sutomation can increase the productivity of a secretary who merely sitting at her desk

information almost as an abstract quantity and to lump all offices together in the same category. Yet common sense would suggest that the organisa-

airline office.

Equally, the solutions formed to be most cost-effective in a big company may not suit a small concern. While a big comin staff organisation. It has pany may well benefit from an found that some companies can advanced electronic mailing system, a small one may find that its needs are met just as well by a teleprinter designed to store and forward Telex messages automatically.

There is little doubt that advances in office automation will have important, though still largely imponderable, long-term consequences for individual jobs, working practices and employment levels as well as

on all-round business efficiency. Much remains to be learned about the optimum application of the new technology, however.
The tentative conclusion is that it will be an incremental prowaiting for work cess, that different organisations
Some early studies on office will require different approaches,
automation tended to treat and that their results will depend at least as much on management skill and an appreciation of employees psychology as on the technical factors involved.

during the 40's. The basic design hadn't changed much since mass production. began in the early 1900's. AES Alphapius.

It's the typewriter that makes all other typewriters obsolete. The typewriter that is so simple, even a two-finger typist can use it. Yet it's so sophisticated, it shows what's being typed on a screen before a word has been committed to paper If your secretary is happy with the look of it, fine. If not she just presses a button and simply alters the bits she doesn't like, without needing to retype the whole thing. She can also make as many originals as she likes without

principle, the introduction of a spherical typing element (golfball) in the early 60 smachines marked a major advance for electric type writers.

The AES Alphaplus. The high performance type writer with a built in screen and printer. It cando more than one job at once, typing and editing a document, whilst at the same time printing another at over 300 words per minute.

leaving the room, the phone, and you, unattended. It's the typewriter that keepsarecord of everything that styped, The typewriter with a screen. printer and filing system. improving efficiency to a remarkable degree. And its so easy to use, anyone who can type at all can type on this.

It can also be used for more sophisticated tasks as required. For example AES Alphaplus is compatible with a wide range of other AES screen typing systems, which means it can communicate with them in offices around the world. It does a lot more than other machines, vet only costs a little more than the best electronic memory typewriters.

If you're thinking of updating your current typewriters consider investing inan AES Alphaplus.

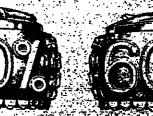
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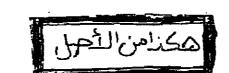
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With your golf ball typewriter. The GNT Telexmaster connects to your golf ball typewriter without affecting its normal operation in any way. At the flick of a switch it can be used to prepare perfect telex tape from typed hard copy.

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Company		- 15 to 17 17 18 18 1		ह्य6
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Rush of new products to cash in on booming market

technology have enjoyed quicker available for a given sum of public acceptance or a more money is doubling about every explosive growth rate than three years.

small computers. Almost every week it seems, brings news that a new markine has been introduced or a new company formed to cash in on-

the burgeoming market. Creative Strategies Inter-national, of San Jose, California, a market research house, esti-mates that world shipments of small business computers will rise by 30 per cent this year to almost 180,000 unks worth

of slipments will comfortably machines. Manufacturers like emerge. Young companies like exceed 30 per cent between now Burroughs NCR and Olivetti, Apple and Commodore and 1985; when it expects some which had for decades been launched low-cost "personal" 540,000 machines worth more making mechanical products, computers small enough to sit than \$15bn to be produced. realised towards the end of the on a desk top. Though most exceed 30 per cent between now

fast that it is almost impossible could be performed more effito offer any clean definition of ciently and reliably with eleca small computer. Driven by tronic circuits than with gearto offer any clean definition of ciently and reliably with electhat the state of the could be performed more effito offer any clean definition of ciently and reliably with electhat the state of the could be performed more effito offer any clean definition of ciently and reliably with electhat the state of the could be performed more effi the relentless fall in the price of electronic components, massproduction techniques and fierce tinued to sell their new pro- launched

FEW PRODUCTS born of the competition between suppliers, ducts through the same types revolution in microelectronic the amount of computer power of channels—mainly dealer-technology-have enjoyed quicker available for a given sum of ships and direct sales—as

CSI's survey covers business computers ranging in price from less than \$5,000 up to \$100,000. But it excludes many types of specialised machines intended primarily for scientific or technical applications rather than

for general business use.
This distinction is itself slightly artificial, for the kind of application to which a small computer is put often depends more on the software (program-ming) available for it and the Moreover CSI points out:

"The sudpsire has barely scratched the surface of the enormous potential market." It forecasts that the annual growth of silinguation.

The industry is developing so 1960s that the same functions of the machines have been wheels and levers. These manufacturers con- Machines,

before. But as low-cost electronic components became more widely available, the business machine manufacturers found themselves facing competition from newer rivals using different types of distri-

bution technique. One of these was the OEM (Original Equipment Manufac-(Original Equipment Manufac-turer) method, favoured by mini-computer manufacturers like Digital Equipment and Data General. An OEM buys bare computers, fits them up with software and peripherals like printers, keyboards, storage devices and terminals and resells them as complete

systems

In the mid-1970s a new type Apple International which recently

its first personal

nised that this is too important storage capacity. a sates channel to be neglected and are setting up their own store chains.

small business computer get for equipping managers and profeshis money? At the most basic level he can expect a marhine on which he can operate a standard, pre-written software package designed to carry out accounting tasks like a general ledger, payrolls, sales-order processing, inventories and accounts payable and receivable.

More advanced packages are

available for purposes like financial modelling. These can calculate interest charges or debt repayment schedules, do forecasting and even convert a series of figures entered on the keyboard into bar charts or graphs which take shape on the 10 be parcelled out between cathode ray screen. A variety several different machines. It of word-processing packages is is technically possible to con-

in use today are operated as can be called into service for Business self-contained systems. A per- computations which require sonal computer will, typically, large amounts of processing

computer, is to break with while a more expensive system tradition by selling it through will be able to accommodate a pleted, the results can be flashed devised to operate small com- reach of a still wider public retail outlets. Other companies, number of terminals. It will also back to the computer station puters. Hitherto, mastery of a which, in turn, will find still including Xerox and Digital offer greater processing power, Equipment, have also recog- higher speed and bigger data

But the era of the communicating small computer is fast approaching. A number of big What does the purchaser of a companies are now considering

SMALL COMPUTERS

GUY DE JONQUIERES

sional staff with desk-top machines linked together in a network, enabling data to be shuttled about at high speeds.

Networking increases the power and versatility of small computers by permitting tasks nect such networks to bigger Most small business computers mainframe computers, which

Once the computation is comback to the computer station which requested them.

Another benefit of networking is services such as electronic mail. Several big companies already have such services in operation. They enable managers to communicate swiftly by typing into their computers messages which are then relayed though the network to the appropriate ter-

acquired manufacturing and marketing rights to a newlydeveloped personal computer, the Perq. designed by Three Rivers, of the U.S. The Perq the Perq. designed has as much power as a much bigger computer of only a decade or so ago and is designed specifically to communicate both with other similar

ICL intends to market the Perq as a personal workstation to be installed on managers' desks in the electronic office of the future. The machine's highquality graphics also make it suitable for computer-aided design and technical work, it them

keyboard has been essential for more applications for them. anyone wanting to carry out even the most simple dataprocessing tasks. But graphics design on the Perq is made easier by an electronic pen:

Xerox's new Star workstation employs a rolling hand-held grammes. module to do the same thing.

when moved around on a special

tablet it activates a pointer on

Experiments are also being carried out with touch-sensitive screens which instruct personal computers to carry out specified functions when the user applies a finger to the appropriate section of the display.

Further shead lies the promise of computers which will respond to human speech other similar and reply in life-like tones, machines and with mainframes. using special electronic cir-

Some computer speech devices are already on the Though they are still fairly rudimentary, they seem of the 1980s is likely to be certain to benefit from further satisfy the demand created ! development which will make its spectacular

New methods are also being likely to bring computers within puters. Hitherto, mastery of a which, in turn, will find still

With prices of small computers falling steadily, the main factor governing their future growth is likely to be the availability of suitable softwear. Few users will in future wan. to write their own-a difficult task with many pitfalls-and most will want to buy in pro-

Good standard packages is " performing accounting and financial fun tions are now available for small computers. But as new users become familiar with demand increasingly advanced and more complex programmes lar needs.

At present, however, there is a world shortage of suitable programmers, which seems likely to continue for some computer industry the challenger them cleverer and more popularising computing during versatile. In time they are the 1970s.

More and cheaper models in bewildering array

WITH PRICES still falling and lower end, somewhat slowing produce copies which are less end of the range they are now future than liquid toner. Ricoh more companies offering more the rate of Japanese advance. clear. new products with more facilities, the onward march of the can be divided into five distinct duplicator defending its now photocopier industry continues through modern offices even if

it sometimes bewilders the staff. According to a survey conducted earlier this year there are now well over 100 different models of plain paper copier available in the UK, some 26 more than were on sale last year. To add to the confusion, a number of machines appear

in a variety of guises. Since Xerox lost its monopoly Japanese manufacturers have takén an increasingly large share of this growing market which seems to suffer little from the recession. According to brokers Scott Goff Hancock, the paper copier. Prices in this leading analysts of this group have fallen so far that industry, of a total of 1.2m at the bottom of the range they plain paper copiers produced world-wide last year, some

11 ×717; 17

....

. .

900,000 were made in Japan. Xerox still dominates the market in large high-speed copying systems and has begun cheaper to buy, or lease, have

. The reprographics industry with a high capital cost but copiers. If its price advantage providing good reproduction and low cost per copy on long

To some extent it is being eroded by the top end of the next category, high-speed plain paper copiers made mainly by Xerox or Rank Xerox in most countries outside North plain paper copiers, the America and Fuji Xerox in

The third group-and the ground where most companies are battling it out-is in the low and medium speed plain are now competing with the fourth area—coated paper

copiers. Coated paper copiers which used to be considerably

Lastly, there is the stencil groups. At the top end of the rather small pitch against the scale are the offset duplicators, overwhelming tide of photo-

> COPIERS JASON CRISP

over the copier looks slimmer every year, it can still claim

reliability and comparative ease

The main competition for the Xerox top of the range highspeed copiers comes in the U.S. from Kodak and International panies are repeating the now familiar pattern seen in other labels. industries. Having captured a Dry toner is generally seen

has produced Canon machine claimed to be capable of making 135 copies a minute. This is faster than the top Xerox machine, although it has fewer facilities.

Measured by units, the largest manufacturer of copiers is Ricoh, little-known outside Jopan while Xerox has, by a long way, the highest revenues. In the U.S. Ricoh copiers are sold by Savin and in Europe by the U.S. owned company Nashua and also by Kalle Infotec, a subsidiary of

copiers under its own name but has been moving carefully as it sets up distribution and servicing facilities in each country. The copiers sold by Business Machines and in Ricoh under its own name, use Europe from Oce-van der a dry toner as opposed to the Grinten. But Japanese com-liquid toner used in the copiers sold under the Savin and Kalle

fighting back at the medium and a higher cost per copy and substantial share of the bottom as having a better long-term

has also announced that its stantial part of its sales in the agreement with its three suppliers will end in 1983, although Kalle Infotec will probably continue to supply Ricoh copiers. Nashua and Savin, both trying to manufacture their own copiers, are reported to have

had problems. According to Scott Goff Hancock. Japanese companies had per cent of the world companies held 55.7 per cent against 73.7 per cent in 1975.

After Canon and Ricoh the main Japanese manufacturers are Minolta, Konishiroku which is sold as U-Bix, Sharp and Toshiba. Mita, another Japa-nese company sells its products under a variety of names including Olivetti, Gestetner and

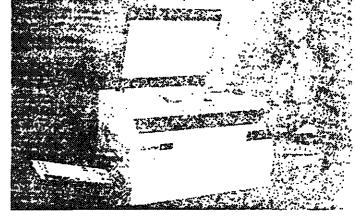
The only British company manufacturing copiers is Ges-(Rank Xerox simply reconditions copiers within the

less-than-flourishing duplicator business, sells plain paper copiers made by Rex Rotary, its Danish subsidiary which it acquired in 1976.

Critics point out that Gestetnew products, particularly plain paper copiers, which represent the major growth area in the market in 1980 compared with company is expected to achieve just under 9 per cent five years a reasonable growth because of earlier. In 1980 the three Xerox its extensive sales organisation. company is expected to achieve a reasonable growth because of

Gestetner is likely to have its margins squeezed as it com-petes directly with the Japanese. It also makes selenium drums, the heart of a copier, in Surrey for other copier manufacturers.

One effect of the falling cost of copiers has been to oblige companies to revise their marketing methods. Copiers which could be profitably sold by an expensive salesman with a company car no longer have sufficient margins to support the



The new Gestetner 2003, A3 copier

Also, as the market grows, to remain fierce over the next more and more small busi- few years. While the Japanese large company's central pur-

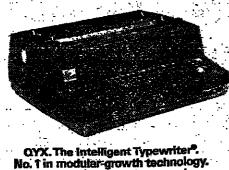
A number of companies—not methods.

See Years—have had to resort The two factors are expected. least Xerox-have had to resort techniques from setting up retail stores to telephone sell-

nesses are purchasing or leas- are moving more and more toing photocopiers, which in wards Xerox's ground at the volves more selling effort than top end of the range, which is getting bulk orders from a dominates. Xerox has moved towards smaller machines and adonted aggressive selling

to a wide variety of new selling to slow but not stop the inroads by Japanese manufacturers, which will have to pro-The battle between Xerox for their more advanced vide more and better servicing

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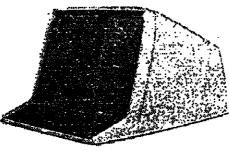
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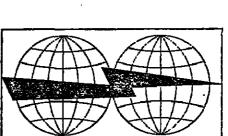
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Future lies with screen-based systems

denominator in the reports of progress in office automation appearing over the past couple of years it is that, faced with the all-electronic future or something closer to home, most organisations and individuals opt for the cosier alternative.

Word processing machines are. without question, the principal devices through which people become acquainted with the theory and practice of the electronic office, yet in the UK only some 30,000 stand-alone or shared-logic word processors have been yet installed, com-pared with a secretarial workforce of about 800,000.

As the Financial Times word processing survey indicated in June this year, major buying interest has not been in screen-based systems but in electronic typewriters, machines which substitute electronics for electromechanical components and are therefore cheaper and easier to manufacture while having a range of capabilities usually associated with computer-based word processors.

Industry observers believe, however, that these "intelligent " typcwriters will have but a short reign. The future lies with screen-based systems, not only because of their intrinsically greater power but because of their basic role as workin office message

But office managers' reluctance to move on too quickly from something they know and understand explains many of the variations on the word processing theme available today. There are over 100 different

models of word processor on the market, excluding word pro-

Lightning Records are one of the largest

sister company Juke Box Services they

employ 60 people and have a multi-million

turnover. Competition is fierce and it was

clear that manual systems could not cope

time minicomputer system was installed,

and it all started to happen for Lightning

"We have developed an absolute real-time

system, which uses the exellent capabilities

Certainly, no other manufacturer's equip-

the flexibility and response times, so cost

effectively—if they were able to do the job

Day and night AM Jacquard systems are in action. Most conventional word

in action. Most conventional word processors require an operator in attendance, but ours work on even when the operators are asleep in bed. They carry out time consuming data processing activities and, in communication with other computers, they continue sending or receiving information such as your memos and reports.

such as your memos and reports.

AM Jacquard systems are no ordinary word processors. They are powerful multi-

function systems which carry out simultaneous word and data processing.

The expandable, multi-user J100 and the

stand-alone J500 systems use the same application software including the data base

ment, which we looked at, could cope with

of the Series 10 to the highest degree.

Recently, a Series 16, Datasaab's real-

to maintain a competitive edge.

Manager, explains:

on microcomputers or manufacturer's software which enables terminals attached to their mainframes to carry out word processing tasks.

They are all early examples application computers, general-purpose computers redesigned to carry out a specific efficiency.

The early shared logic systems where a number of work stations shared the power of a single central processor-have failen into disfavour as the cost computing power has declined.

Stand alone systems, with their own in-board microcom-puter, are in fashion now. complete with hardware and software to enable them to communicate with other word pro-

All the reputable manufacturers produce machines which will do the job adequately. The advantages claimed by a manufacturer for his own particular variation on the basic theme may be more imagined than real, although as with any prohe more imagined than duct for personal use, it is horses for courses.

Aficionados of the word processor market look for keyboards which have been designed for the typist—a data processing terminal running a word processing package will probably not prove satisfactory to an experienced typist.

The keyboard should be independent of the screen for maximum working comfort and the screen itself should display characters in a rock-steady fashion. A flickering screen which reflects the light is probably the quickest way to engensuch as der eye-strain headaches and

"Wordstar" designed to run antipathy among typists on microcomputers or manufactured Incidentally, while the last word on the subject has probably not been said, enough research has now been carried out to suggest that visual display terminals do not, of themselves, cause eyestrain or other

> If a typist has an unsuspected eye defect, however, this could be exacerbated by working in front of a VDU. More commonly, discomfort caused by an ill-adjusted chair or poor light-

WORD PROCESSORS

ALAN CANE

ing is projected by the unhappy typist onto the word processor. Ideally, the system should display a format line at the top of the screen with details of document name, page and other housekeeping details such as the amount of money remaining. It should be possible to edit text easily on the screen-correct spellings insert material and delete old, add or subtract paragraphs, justify margins and so on-the user may want such novel utilities as

Scrolling text upwards and downwards and horizontally on document is being prepared-a refinement is the ability to see the bottom line of the preced following page on the screen at

the ability to highlight certain

words or sentences or to reverse

the shading of background and

pointer used to delimit blocks of text, indicate individual tional typewriter. British Olivetti.

letters and so on-is usually controlled by a block of keys. The most sophisticated systems incorporate a "meuse," a palm-sized gadget which lies on the desk top tethered to the machine by a flexible cable. Movement of the mouse on the table-top is reflected in the movement of the cursor on the

The mouse is featured on the Xerox "Star" workstation, a device which bears as much resemblance to an ordinary Xerox "Star" word processor as an IBM maintypewriters.

Not all word processors have full or even half page displays. Many have simply a single line display, reckoned to be the best for fast, easy input.

A machine which aims to achieve the best of both worlds is the Dictaphone Dual Display, which sports both a 66-line full-page display combined with a single line, 37-character display, set just above the keyboard.

AES, now operating independently of its erstwhile stablemate Wordplex, seems to have taken the job of bridging the gap between electronic typewriter and word processor most seriously. Its latest offering functions as both. In screen mode, it behaves as a convenscreen-based word processor, yet at the touch of a kev its built-in daisy wheel printer can be driven directly from the keyboard, giving the impression

Electrone Typing System 1019 has taken a different tack. It reasoned that with a user-base of more than 10,000 electronic typewriters in the UK, there would be substantial demand for a device to enhance those machines, converting them into instant screen-based word

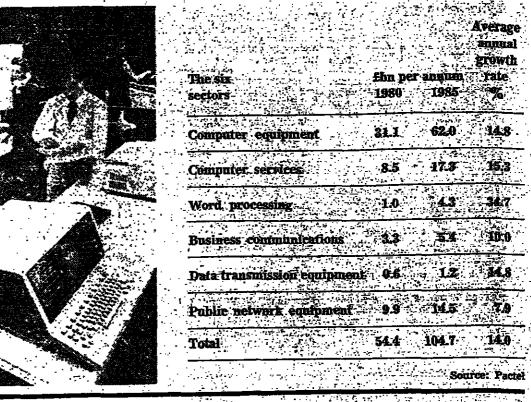
The device was a 25-line screen, floppy discs and soft-ware from Syntrex, a U.S. com-pany with which Olivetti is involved. It adds on to standard Olivetti ET201 or 221 electronic

The market, in fact, is split between companies which are basically electronic equipment manufacturers—AES, Wordplex or AM Jaquard, for example, and those which are basically office equipment specialists— Dictaphone, Rank Xerox.

Electronic typewriters are becoming more sophisticated; word processors are becoming Companies such as cheaper. Companies such as IBM and Olivetti, with a foot in both camps, provide ranges equipment across the board The UK presence is small but

distinctive. It includes Logica VTS which designed and builds the machines now marketed as the Nexos 2200. Data Recall makes the Diamond V, an expensive but impressive machine. Computer Ancillaries (CAL) sells a machine based on microcomputer device devised by the UK company LSI Logic. Monotype offers its own range

RECHNOLOGY TECHNOLOGY Market summary of worldwide annual shipments (constant 1980 prices)



of word processors.

Among British suppliers of word processing packages are Systime with Systext, running Digital Equipment-based hardware, Arbat with Reform, and ICL with its 7700 system running on its mainframe com-

The principal names in the

plex, IBM, Xerox and Wang, the fast-growing U.S. company ing and is moving rapidly into electronic office systems:

On one view of the future, word processors as we know. and expensive limited - will become obsolete.

North American-AES, Word- replaced by multifunction workcommunications, video, voice transmission and facsimile, That is where those major view of the future, names are going. There again, occssors as we know the preference for the familiar today — application may guarantee the humble word office of the fature.

Expanding range of capabilities

run a huge range of commercial

computer for the foreseeable

future, but there have been

novel experiments in voice,

handwritting and telephone

communication, some of which

software.

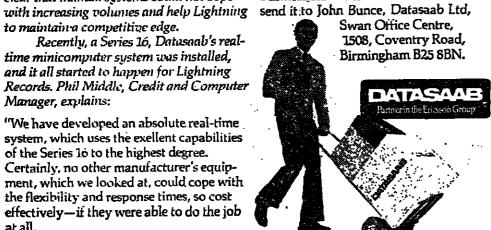
right direction.

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newspaper has a standing joke with the editor of its technology "What picture," he asks resignedly every morning "have you brought me to process today of somebody working at a visual

It is only a slight exaggera-tion. Microelectronics and computing are the technologies which make news today, and their most obvious characteristic is the interactive terminal a television-like screen and typewriter keyboard which makes it possible to send mesand receive messages from the computer.

display terminal?

Terminals used to be no more than their name implies, devices at the end of a ribbon cable or telephone line which could be used to put in data to a mainframe computer or retrieve it.

The advent of the eight and bit microcomprocessors changed the way computer thought specialists about terminals. Now they are classified

smart or intell<u>i</u>gent according to their degree of local processing capability.

A dumb terminal can act as an input and output device, but Iocal processing capability.

A smart terminal, on the other hand, is capable of processing without using the power of the computer to which it is connected. The user is able to programme the terminal to suit his or her own needs. It is sometimes difficult to distinguish between a smart terminal and an intelligent version—it really comes down to the degree of local processing power.

Next up the line is the front end processor, usually a minicomputer, used to organise and preprocess data for a much more powerful mainframe.

But these definitions belong to the world of data processing. What office automation specialists are looking for are ter-minals which can be used easily and effectively by people with no computing experience—and which bide the fact that they

are computers at all. Such devices are described as user friendly" the technology is said to be "invisible to the

system, business packages and the award-

system, business packages and the award winning word processing package, Type-Rite.
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becoming the preferred description in the office worldshould integrate and replace most or all of the separate utilities now found in conventional

So, for example, it has been

The first commercial realisation of this notion came earlier this year when Rank Xerox launched its Star Information Processing System

The Star-to be known as the

Xerox started with the idea that the terminal of the future would be small-about the size of a paperback book-portable

When it started research on this idea at the end of the 1960s, the technology was simply not there to support such a concept (this was before the first fourmicroprocessor remember).

ALAN CANE

in a disk drive under the desk

friendliness" a long way; the user need not type: there is a "mouse," a small box attached to the workstation by a wire which can be moved around the desktop. The movement of the mouse is mirrored on the screen and it can be used as a pointer, as a cursor or as a device for creating diagrams.

Star does not give a pictorial image of the desk, but it provides tiny formalised images on the screen such as in and out trays, desk drawers, files and folders which can be opened" and examined by pointing at them with the

monse.

If a visual display screen is to replace the conventional tools of the working office-files, notepads, records and memos— quality will be important. In the Alto experimental

system, Xerox engineers created a screen so detailed that given sufficient patience and artistic ability it would be possible to create a perfect half-tone image of photographic quality, point-

Ironically, now that Xerox has aunched the fruits of its research, technology has caught up with its original concept. up with its original concept. Tiny but powerful computers have been available for some years. Last month DVW Micro electronics launched the Husky 144, a portable computer about the size of a book and rugged enough for use in the field.

turers it is the first portable computer to offer the features is carried out in what the makers like to describe as "plain

One notion is that the terminal, or workstation—which is

suggested that the desk and all its contents could be replaced by an image on a screen, of a desk and its contents.

8010 workstation in the UKhas been given widespread publicity (FT, April 29 1981) but it is a genuine technological milestone both in its capabilities and in the conceptual thinking and research which gave rise to

and easy to use.

In consequence, it built the predecessor, the Alto, using 1970s technology. So the Star is a fairly bulky piece of equipment, featuring an A4

TERMINALS

sized screen and memory discs

top. But the Star takes "user

found in desk top systems. It provides a screen displaying up to 128 characters in four lines. Communication with the device

It runs the simple and power

THE PICTURE editor of this user" in the jargon of the busiand through the use of the most products. Despite the quality of the widely used microcomputer operating system CP/M, it can

> Speak and Spell is a good ex-It is most likely to be used ample, nobody is putting much by scientists in the field, public utility meter readers and salesconversations with a computer.

> marketing a computer-based It is hardly what the Xerox researchers planned when they draughting started the Alto project, but nevertheless a firm step in the

> responds to spoken commands such as "move " and "zoom." Most manufacturers agree Systems and Racal pioneered. that the screen and keyboard terminals in this country. These will remain the most popular systems operate on touch tone way of communicating with a telephones; the computer input

is in the form of combinations

recorded drum or using a voice voice synthesis chips now generation chips available—Texas Instruments Quest Automa Quest Automation and CTS Recognition have developed

faith in the idea of holding written data to the computer. All of these are signposts to

Calma, for example, is a future where voice, data, text arketing a computer-based and image are handled in an system which integrated fashion by a single workstation. Viewdata systems, Rediffusion. Computers Tele-Menzies Communication puter-a television set that offers viewdata videotex, personal computing data inter-change with cassette tapes and viden discs, suggest that all grated in a package that will of tones which the computer not seem alien to any user. In deciphers as binary digits. The the office, that familiarity will computer agrees or queries each be what will count.

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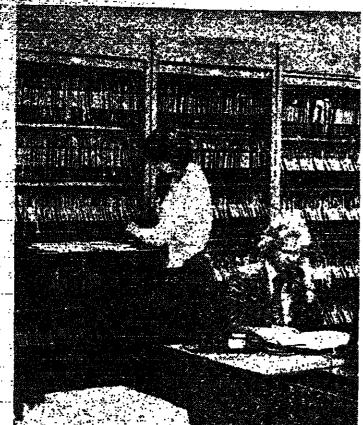
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Computer printout sheets from the data processing department of the National Westminster Bank are stored in rows of Railex files at the bank's premises in Goodmans Fields, in the City of London. The system uses 1,500 linked-pocket files in seven

Area of vast potential

AS COMPANIES have increased their efforts in the field of office automation a concept has grown up in some areas that this will, one day, result in the paperless office.

While many observers are predicting that much more information will be transmitted electronically within this decade, far fewer are willing to say that the amount of paper which is stored will be much reduced. And there is the view that one of the results of the development of information technology is that more infor-mation is produced, which will result in more paper being kept

rather than less.

At present the most wide-spread application of so-called. technology in the storage of documents is in micrographics. A report, published at the end of lest year by Mackintosh Consultants concluded that tosh Consultants, optical discs electronic document storage in will account for 10 per cent of

1983 would be almost entirely. Magnetic tape, which \$770m and \$570m.

systems only marginally." It The great majority of elec-also said that small-scale filing tronic memory will remain in systems would barely be silicon chips. Magnetic bubble affected, that traditional forms memories, solid state devices in of filing (such as in filing which data is stored and con-cabinets) would still be used trolled magnetically, once the in the vast majority of filing great hope of cheap mass applications, but that in large memory, now looks set for a scale document filing the manufacturers of paper based systems would suffer some

But, it warns, the threat to manufacturers of paper based systems comes from the replaceelectronic systems, such as electronic invoicing which is already being introduced by

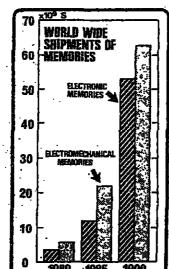
memory continues to fall it will in the product's development. become increasingly attractive to use it to store information. In the late 1980s it is expected that the main competition for micrographic companies— selling microfilm and microfiche systems—will come from

the computer manufacturers. In addition most manufac-turers of all types of electronic office equipment, from word processors to photocopiers, are increasingly looking at produc-ing office systems including

uses in its videodisc system is expected to make it a major per cent-of the total market competitor of micrographic for electronic memory.

systems in the latter part of the Electronic Document decade. In addition to low costs it has the additional facility of 1985

According to a recently published survey, also by Mackin-Luton.



world wide use of electromechanical memory systems. INFORMATION STORAGE

By 1990 it predicts optical discs will account for very nearly 40 per cent of that market, which it expects will be over 500 times as large as it was in 1980 when optical discs were not generally

micrographic based with a rently accounts for around 35 market in the U.S. of \$75m and per cent of the market, will in Europe of \$57m, By 1990 it become increasingly less signiscrepated these markets to be ficant while "rigid" discs continue to dominate.

\$770m and \$570m. continue to dominate.

At the end of the decade But while electromechanical however it is espected that memories are expected to grow other systems of storing 40-fold over the decade, elecinformation :- electronically, tronic memory is expected to magnetically or on optical discs increase by a factor of 200, like the video disc will begin measured by the number of to have a significant impact memory "bits" shipped.

As Mackintosh Consultants Over that period, the price note, "Electronic document per bit of electronic memory storage will affect the market for will fall by a factor of 15, prepaper-based document storage dicts Mackintosh.

trolled magnetically, once the great hope of cheap mass more mundane future. A number of European com-panies, including Britain's

Plessey, withdrew from developing magnetic bubble memories. But the most dramatic signs that its prospect is much less than originally hoped is that U.S. giants Rockwell, Texas Instruments and, very recently, National Semiconductor, have large companies. withdrawn from the area as ... As the cost of electronic well after massive investments A number of Japanese companies are still producing magnetic bubble memories. Two U.S. semiconductor manufac-turers, Motorola and Intel, also remain committed to these devices which can currently store up to 1m bits—units of information—on the latest

ing available. The only European company still involved in bubble memories is Sagem of France. memory and storage. Mackintosh estimates that
The development of optical although hubble memories will
discs—the system which Philips
grow it will only represent a very small proportion-about 1 Electronic Document Storage 1980-1990 and Memories 1980are available from Mackintosh

designs which are just becom-

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The ultimate in telephonic one-upmanship WHILE many companies still Telecommunications is one of use switchboards with manual the semiconductor industry's exchanges, with their operators major markets, and as the cost

duced what might seem to be the ultimate in telephone oneupmanship-a PABX for the

Purists might baulk at calling it a private automatic branch exchange (PABX), since it only has one incoming line but through up to five extensions.

Yet it can be used as an intercom with any extension dial-ling another. It can be used for paging people throughout the house, for door-answering, as a baby monitor, for speed dialling or for repeat dialling or it will play pop or a Bach fugue for a caller who has been put on "hold."

Mitel, the Canadian concern,

which has produced this home

communications system, is a good example of how advances in micro-electronics have revolutionised telecommunications. Most private automatic branch exchanges in Britain and elsewhere use out-dated electro-mechanical technology which requires labour-intensive production methods. The new electronic exchanges require far fewer people to assemble them cost of micro-electronics as the

micro-chip performs more and more functions.

moving plugs around a board to of microelectronic production connect callers, an enterprising falls new PABXs will offer more Canadian company has pro- and more complex functions at a lower cost.

> Since the mid-1970s the Post Office has slowly been allowing companies to offer large electronic PABXs directly to customers. Until the possing of the British Telecommunications Act this year, British Telecom - as the newly-independent teleconumunications branch of the Post Office is now knownhad a monopoly to supply all PABXs with fewer than 100

lines, which is most of them. Since the Act was passed the Department of Industry has the power to license other companies to sell small exchanges as well as the large ones, but it will not do so for a further two years so as to give UK manufacturers time to prepare them-selves for the inevitable foreign competition-particularly from U.S. companies and probably from the Japanese.

It is seeking a reciprocal openness of markets from foreign suppliers with which the U.S. will easily conform while Japan will not.

Critics of the British tele-communications industry point out that it is significant that all developed overseas and are use.

owned companies. ever approved was made by International Business Machines

PABAS JASON CRISP

CONTRACTOR OF THE PROPERTY OF THE PERSON OF

foreign-owned companies with large electronic exchanges which have been approved by British Telecom are TMC, a subsidiary of Philips, Standard Telephones and Cables. a Subsidiary of International Telephones and Telegraph (ITT), and Thorn-Eriesson a joint venture between the British Thorn-EMI and LM Ericsson, the Swedish

The two British-owned telecommunications manufacturers have both turned to North America for large electronic PAEX systems. The General Electric Company (GEC) solls an exchange (SL-1) based on a design by the Canadian company Northern Telecom.

Plessey has had success with an electronic digital exchange based on one designed by Rolm. the large electronic PABXs a company which first developed available in Britain bave been rugged computers for military

offered by foreign- British Telecom recently available from British resecond companies. The first-introduced three new small Although it is made mainly by electronic exchanges, after TMC, Standard Telephones and strong criticism from customers who were upset both by the antiquated design and shortage

of "conventional" PABXs with electro-mechanical systems. The first, known as Monarch, is an advanced digital exchange capable of rapidly switching data and voice. It was designed by British Telecom itself at its research laboratories at Martlesham, near Ipswich. Monarch was put into production by both Plessey and GEC and is rapidly

becoming widely available throughout the UK. Waiting times for PABXswhich exceeded a year in 1980 -have been substantially cut. Monarch has been criticised, as have many other designs for the Post Office, for being overengineered, however.

With anything between 24 and 120 extensions, Monarch can have up to 30 exchange lines. It has all the facilities which are more or less standard in any modern exchange, such as call-transferring, repertory dialling, repeating the last number called, and conferenc-

Herald, a smaller exchange developed by Pye TMC, the Philips subsidiary, can be as small as two-line with four extensions up to 10 exchange lines and 36 extensions. It is also ties, is

Cables (STC) also has a small contract to manufacture it.

Much to the consternation of the traditional British manufacturers, GEC, Plessey and STC as well as Thorn-Ericsson, Philips, and others, British Telecom has just begun selling a third small exchange made by the Canadian company Mitel.

The traditional manufacturers claim, with some justification that British Telecom's design standards have always been so high-that is, over-engineeredthat they have never had the option of producing a low-cost product like Mitel's.

But because British Telecom now faces competition it has bent over backwards to accommodate Mitel's design standards, they argue.

Last year the pressure on British Telecom to find a fur-ther source of PABNs increased as waiting times for any exchange grew and grew and the introduction of Monarch and Herald was delayed. At the time companies installing advanced computer communications equipment often found that they still had to use old manual exchanges for the telephone system.

offering a wide range of facilinot as advanced as portant decision.

analogue exchange rather than digital. Its contract with British Telecom prevents it from offering the exchange to companies when the UK telecommunications market has been com-

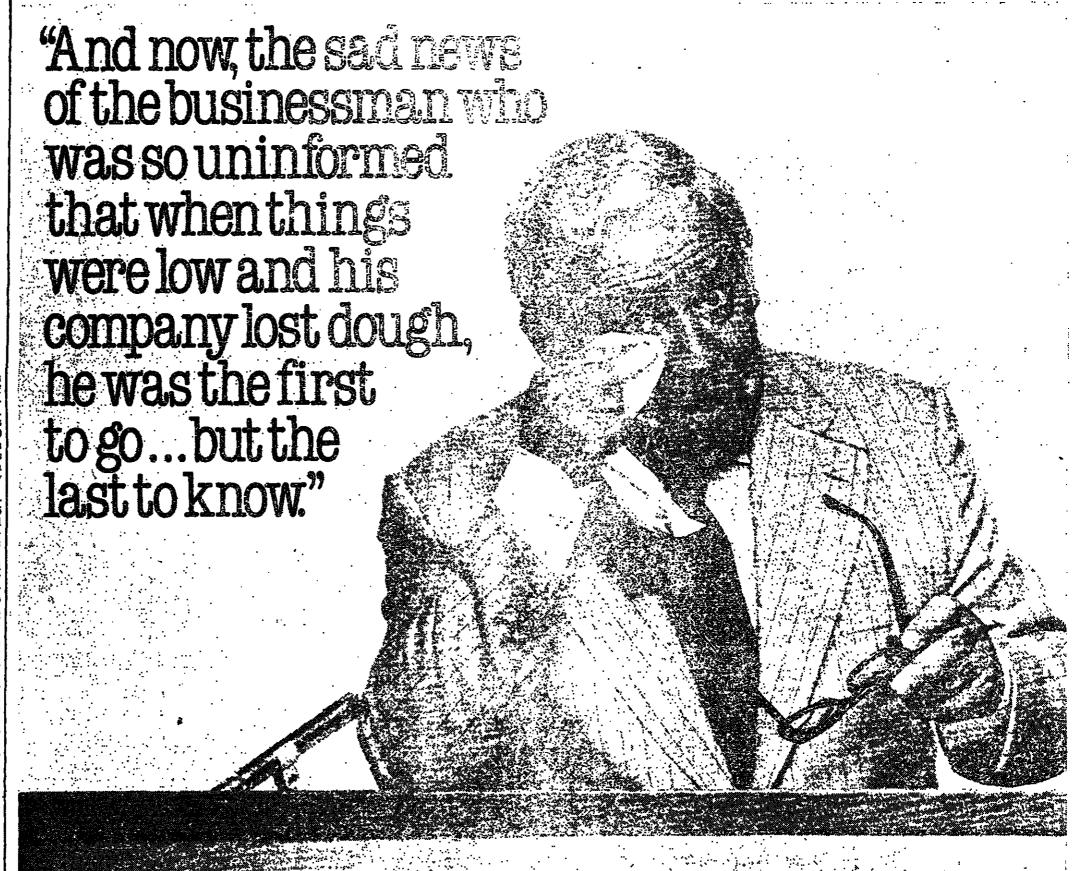
pletely liberalised. With telecommunications and computer technologies converging as a result of the revolution in micro-electronic technology, come an increasingly important

piece of office equipment As telecommunications companies try increasingly to diversify into "office automation" products so they are expected to face competition from new sources — including the computer manufacturers with their

experience in data networks.

Apart from the U.S., Britain is the only large industrialised nation in the West to have set about liberalising its telecommunications market in a way which may allow competition and change in an industry which is being driven ahead by the rapid evolution in techno-

logy.
Many observers believe that more conservative attitudes in Continental Europe will be changed inevitably by the techunications. For most companies the heart of telecommunications The Mitel exchange, although is the PABX, which will make



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Basis for office of the future

IN THE past few years com-puter specialists have begun to use a new phrase to describe a Conventional methods of conspecial way of linking small necting computers to terminals computers and their peripherals are rapid but complex, expen-→ the local area network.

The definition is simple. local area network (LAN) is a technique for connecting large numbers of often dissimilar computers, work-stations, computer memories and printers so that information can be shared quickly between them with a low rate of error.

Manufacturers have already wrought many variations on the theme. A recent report, Local Networks: A Product Review, from the UK office automation consultancy, Urwick Nexos, lists 20 proprietary products before lapsing into etceteras.

To the data communications manager, boning up frantically on telecommunications to keep in touch with the ordinary networking demands made on him. it may seem to be new technology for technology's sake.

Even so, the arguments for LANs are powerful and there is little doubt that they will still early days for LAN tech-form the communications base nology. for the office of the future.

They are suitable mainly for There are currently no the big company which has accepted standards for local netaccumulated a variety of works; different types of computing Attachment to a local network equipment during its growth: will not of itself guarantee comminicomputers from one patibility between devices; supplier, word-processing terminals from another, not to of attachments is often limited;

computer memories. The aim of the LAN is to make it possible for the indi- by LAN developments in the vidual terminals, be they mini- past few months. One of the computers, microcomputers or earliest companies in the field word processors, to communicate was Xerox with a product it to form the basis of an elec- called Ethernet. It is based on tronic mailing system and for simple coaxial cable laced the terminals to be able to draw around the area the network is information from any of the to support.

sive and effective for only short distances before boosters or repeaters are needed. The conventional methods used for longdistance data communications over telephone lines are slow, expensive and require costly equipment to detect errors.

LANs offer high speed-often up to 10m bits of information a second, rapid enough to send the entire contents of the Financial Times from one office to another in one second.

They also offer very low error rates by combining a technique called packet switchingwhereby the message is divided for transmission, into a num-ber of equal-sized segments or packages-and advanced soft-

So in principle the forwardlooking systems director will be thinking about how and when to instal a LAN. But Mr John Yeomans, author of the Urwick Nexos report argues that it is

He points out:

mention a mass of company

No LAN supplier can guaraninformation held in various tee compatibility with what may be offered in the future.

This final point is given weight

Individual devices are linked to the cable by a "tap," a device for getting electronic signals on to the cable and taking incoming signals off and an interface device which translates between the device and the network.

The devices are divided into -work-stations, terminals, word processors and so on—and servers, which are memories and printers.

LOCAL NETWORKS

ALAN CANE

Messages from say, a word processor attached to the networkwork are divided into packets of information each of standard length. Each packet contains part of the message together with control data indicating the source, destination and type.

With the Ethernet system the message is broadcast to the entire network but only those stations for which the message is intended are able to receive

The technique the Xerox researchers developed to solve the problem of getting messages on to the network, to their correct destination and then off network without collisions and confusion, are at the heart of Ethernet and most other local area networks.

It is called CSMA/CD. meaning carrier sense multiple access with collision detection. The system "listens" for

traffic on the data highway — the coaxial cable linking all the users and servers. If there is no activity, the station broadcasts its stream of data packets

Because all the stations on along such a cable as long as the network have an equal right they are sent at different freto broadcast it is possible two or more will broadcast simultaneously, causing the data packets to collide.

The stations listen for collisions and stop transmitting as soon as a collision is detected, however. After a random time interval each station tries to broadcast again, first listening for traffic on the network.

By the law of averages all the messages will eventually get through. What makes it all possible in real time is the high speed at which the system

Xerox, in collaboration with Intel, a major U.S. semi-conductor house and Digital Equipment, the biggest manufacturer of minicomputers is trying to establish Ethernet as the standard for local area networking.

Indeed, it has licensed the technology for a nominal sum to a number of leading com-panies including Hewlett Packard, Nixdorf, Zilog, Ungermann-Bass, ICL, Olivetti, Prime and Thomson CSF.

The U.S. Institution of Elec-trical and Electronic Engineers, the IEEE, is proposing an Ethernet-like standard as one other and potentially more powerful form of LAN—the

broadband network. Ethernet is a baseband technique; the information travels as a series of electrical impulses and only one series of impulses can occupy the network at any one time.

Broadband techniques make use of the type of coaxial cable used in cable television systems; it is possible to send a number of separate signals

This means that the cable can be used for various purposes at the same time—to run a series of Ethernets, for example, as well as a few video channels.

What makes broadband techniques such as Wangnet or Sytek's Localnet so attractive now is the growth in cable tele-vision coupled with a sudden decline in the cost of the equipment used to modulate the signal on to the cable.

This is at least partly because of the growth of Citizens Band radio, which uses identical equipment and has therefore improved the economies of scale in their manufacture.

While baseband techniques such as Ethernet seem to have the edge at present, broadband is waiting in the wings and offering the movement of data sound and vision in the same tage for the integrated office.

It is easy to agree with the Urwick-Nexos report's conclu-sion that all that can sensibly be done at present is to define the services required of an office system and select the best equipment to perform them.

There are as many choices of its official network types. as there are manufacturers. In recent months dramatic progress has been made in another and potentially more data slots; or Haseler's Silk, also a ring system but broad-band in character and carrying

voice and data.
Xinet, the LAN from Xionics chosen by the Cabinet Office. uses multicore cable and access to the ring is through "intellisockets.

To the user it should not matter greatly which technique is used. The only criterion should be whether it meets his



This desk-top "Office Command" communications centre launched by Format Communications of Uxbridge, Middlesex, which is now available for as little as £5,000 a year rental. The compact microprocessor based switching unit is on the left; a hard-copy printer, centre, and visual display upit is on the right

Wide range of services offered to consumers

network-obviously an advan- BEFORE the 1939-45 war communication away from the office

in the UK alone use VHF and UHF radiotelephones daily, including those with the portable hand-held units that can be so useful on large sites in such industries as civil engineering and petrochemicals. The annual UK market for mobile equipment is about £50m.

There is also a growing British Telecom service, Radiophone, for calling direct into the telephone network from a vehicle. A number of companies offer message relay services (Aircall and London Car Tele- in citizens band (CB) radio, phones, for example) and with more of a "pop" product and (Aircall and London Car Telethe freeing of telecommunica-tions in the UK such companies are now also starting to offer

direct-connect services.

Paging systems have recently moved on to digital technology and now allow multi-meaning coded signals, or speech, to be heard on a tiny unit clipped to the top pocket.

Such systems, originally used only for in-house paging, are now also employed in a growing British Telecom wide-area plan. Private wide-area systems are also beginning to appear as a further result of the more liberal official policy.
In the past few years it has

become possible to send data by radio from places without telephones in convenient positions, from railway marshalling chat. Some professional radio yards and docks, for example. In the hotel room, a small suitcase opens up to reveal an acoustic coupler and keyboard. The hotel phone is placed on wasted time and other resources coupler and the number 'dialled" from the keyboard.

to his home base computer.
Other hand-held units simply store data that will be fed, on return to base, into the computer. Milkmen are already using them.

The latest aid to the motoring businessman is a BBC proposal called Carfax. If and when it is implemented it will provide a special service broadcasting traffic information by means of a multiplicity of low-power medium-wave transmitters suit-

ably placed to serve local areas. The idea is to keep the motorist out of traffic jams and hold-ups. It would work on the assumption that any single transmitter would be on the air only briefly to broadcast a local message, allowing timesharing of only one frequency allocated to the whole service. The receivers would be correspondingly simple and

But the cash for setting the system up has to be found and this is hardly a propitious time. although the car radio maker Radiomobile believes the pro-ject could be funded through user subscriptions by motorists buying the receivers.

However, the major market number of users to share or continues to lie in the provision transmitter.

Burndept and Dymar are two market. Most of these companies also offer paging systems, although the specialist UK company in this field is Multitone.

funken and Grundig have been active in the UK. Curiously, the Japanese have so far made no major move. But

From West Germany, Tele-

MOBILE COMMUNICATIONS

GEOFFREY CHARLISH

not likely to become important as a business aid they and other Far East makers will

probably predominate. power central control base transmitter and is really a means whereby vehicle drivers and other individuals can have a engineers argue that a valuable mised.

organisation. Service van fieets. can obviously operate more efficiently, improving service to

age down.
British Gas operates the biggest fleet with 15,000 mobiles. For reporting routeing and security purposes the UK bas industry employs about 13,000

To help prospective buyers, most of the makers try in their sales literature to get down to hard comparative costs.

Pye, for example, shows what

one gets for £1 in areas affect ing the decision to install mobile radio. In terms of operating time: a man on £11,000 with overheads (10 min); a twoton diesel vehicle (13 min); and a com box telephone (10 min). cost plus operating costs for a system with 10 mobiles.

radio up to smaller organisa- by tions and individuals, "com-munity repeaters" are begin-ning to spring up. The manufacturers are setting up sites nationwide that allow a large

munication away from the office meant using a call box or per of communications equipment as the telephone in a hotel room or customer's office.

Only the police and later the emergency services had the rather crude and bulky mobile equipment of the day.

Now well over 250,000 people Now, Marconi, Motorda and Pye quotes in all in operating the provision of services completely private communications, a floa from office to mobile. Concepts the rather crude and bulky mobile equipment business in Britain transmitter also employs a radio and remains in a strong position. Itok, obviousing grione-line costs.

Now, Marconi, Motorda and Pye quotes in all in operating the provision of services.

unlimited use. * strong and growing contenders. The idea resulting once while recently Blick Inter again from the relaxation of national Systems entered the regulations (in this instance by the Home Office, which allocates frequencies) has been highly successful in the U.S., where there are 7,000 such repeaters.

A problem that continues to beset mobile radio is the lack of frequencies. Although more and more channels have been squeezed into the bands by making them narrower [12.5 kHz is about the limit for the randial arrests of the problem. riearly andible speech with hor-mal double sideband working), other methods are constantly sought

Last year an entire Institution of Electrical Engineers con-ference was given over to the subject. Single sideband work-ing (SSB), phase modulation, digital modulation, these and many other techniques are now being researched.

One solution, applied by Bell in the U.S., has been the advanced mobile phone service (AMPS) in which service areas are divided into hexagonal CB radio requires no high cells, By allocating a dozen over central control base channels altogether and ensuring that not all of them can be used in any particular cell, byerall spectrum conservation is achleved and interference mini-

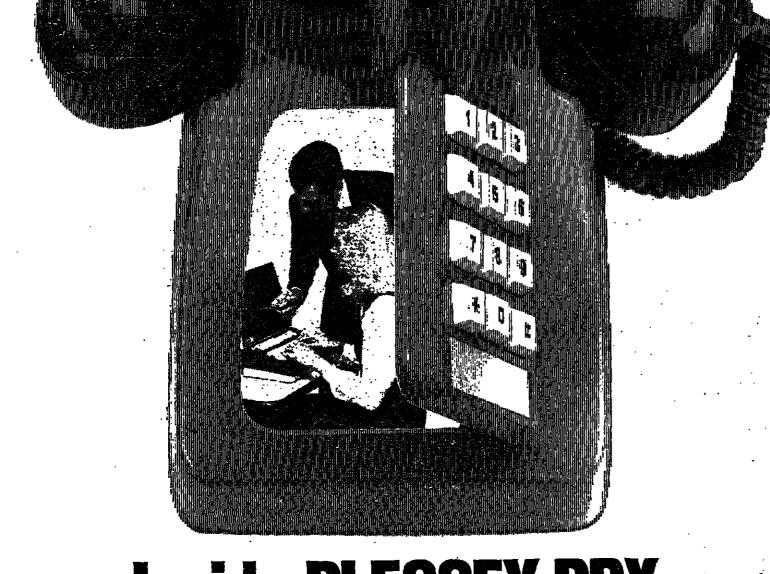
spectrum is being wasted by CB. The Philips Taboratories at What makes mobile radio Salford, Surrey, are working worthwhile? The avoidance of on single sideband and have wasted time and other resources reduced channel widths to is the key selling point, but 5 kHz: the rechnique is now the details are peculiar to each being examined by the Home

-Philips has also looked at trunking systems in which users are not allocated specific fre mobiles use all the channels. with computer allocation ensur and allowing more users than would, otherwise be possible.

In the long run if seems likely that more and more of the avail able frequency specific wil have to be re-allocated to serradio—mobiles, aircraft ships satellites the military and individuals.

Given enough time many erdinary people will ultimately want "instant" communication from wherever they happen to be. The first sign has been the A mobile radio, claims Pye, surge of interest in CB radio, provides 18 hours of communi. Meanwhile, the industry cation for £1 based on seven will continue to reduce the year amortisation of the capital size and cost of the equipment,

To cut costs and open mobile are already being controlled microcomputer, specialised analogue and digital integrated circuits are rapidly expected to accelerate.



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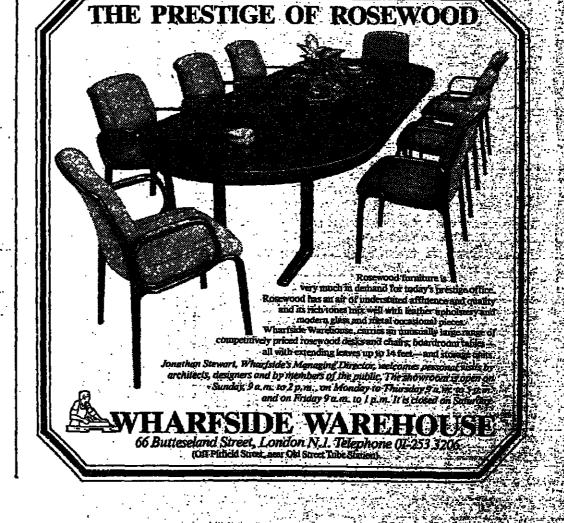
The Plessey PDX is the first digital exchange in Britain, and the first to get full Post Office approval. Already it's installed or ordered by more

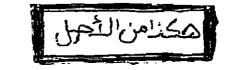
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31 15 1 till

Huge pressures for change

Rest of the World Japan US

UK

W Europe

APPLICATION tions. Not only is it giving birth buttons.

future, however, increasing network. Even the need to amounts of traffic will be in the travel to an office every day U.S. the volume of data communications, though still relatively small, is expected to grow by as much as 30 per cent a year this decade, three times faster than voice traffic,

In tomorrow's telecommunications systems the two types of traffic will be practically in-distinguishable. Traditional distinguishable. analogue systems, which transmit speech in the form of vartable frequencies corresponding exactly to the sound waves generated by the speaker, are being replaced by digital networks. These convert speech into a stream of zeroes and identical to computer

In digital networks electronic circuits are used instead of mechanical apparatus to switch calls and can be programmed like a computer to accept new instructions. For instance, if a

COMMUNICATION SYSTEMS

GUY DE JONQUIERES

subscriber is away from his

telephone, incoming calls can be redirected to him automatically. Copper wire is also being replaced as the standard transreplaced as the statutant on the ground a number of countries are installing circuits made of optical fibre, hair-thin strands which can carry thousands of telephone calls simultaneously in the form of pulses of light. From space, satellites can beam high speed communications

across an area several thousand miles wide. From the subscriber's point of view this process of rapid technological change will bring about many advantages in the form of new types of service. Here are a few examples:

• Videoconferences, the technique for linking business executives in distant cities by means of closed-circuit teleance group. vision. Though still expensive

to use videoconferencing can pay for itself if it reduces the need for business travel. High-speed data transfer. In the U.S. Boeing Computer Services is already using satellite links to transfer vast amounts of information and programmes stored in its central computers to wherever they are needed. Thus a Boeing engineer can gain access from anywhere in the country to the detailed technical specifications of, say,

an aircraft wing.

Home information services. Simple terminals, such as personal computers of even modified televisions, can be linked to huge networks through month will permit freer compe-

of accounts, make confirmed travel " advanced technology is revolu-tionising business communica-simply by pressing a few

tions, Not only is it giving birth buttons.

It to new and more ingenious The consequences of this types of service; it is also exerting massive pressures for change in the economics of the telecommunications industry and the legal, political and regulatory famework within which the latter operates.

For most of this century telestics and the legal political and regulatory famework within which the latter operates. which the latter operates.
For most of this century telecommunications has been mainly concerned with transmitting human speech. In purchased over the telephone be diminished if managers and staff can use sophisticated communications systems to work

In America, the Federal Comalready responded to these rapid changes by voting to exempt from regulation com-munications services which involve computer processing of data. Its decision followed several years of fruitless attempts to arrive at a meaningful distinction between com-munications, which falls within its jurisdiction, and data processing, which does not.

The Commission's ruling made last year, was also intended to stimulate freer competition in the provision of value-added services operated on the communications network These include electronic mail, electronic banking, computer time sharing and videotext

information systems.

The Commission also ruled that American Telephone and that American Telephone and Telegraph, which enjoys a virtual monopoly over the U.S. telephone network, could participate in the newly deregulated market provided it did so through a separate subsidiary to be set up by March next year. This ruling has been challenged by the Justice Department but was upheld by a federal court early last month

early last month.

AT and T's entry into the market is expected to have a critical impact on its future development. The group is planning to commit massive resources and intends to endow its new subsidiary (known as Baby Bell) with assets of \$10bn and a staff of 100,000.

Some communications experts believe that the battle for market supremacy could turn into a heavyweight slugging match between AT and T and other corporate titans such as International Business Machines and Xerox. IBM has already deepened its involvement in communications through its interest in Satellite Business Services, a joint venture with Comsat and the Aetna insur-

In Western Europe responsi-bility for providing national telecommunications services has been traditionally entrusted not to private companies but to state-owned monopolies known as PITs. They have exclusive rights to build and operate netional telecommunications networks and may also determine what types of traffic they may carry and what apparatus may be attached to them.

This pattern has been broken however, in Britain, where the Government is now dismantling the monopoly of British Tele-com. The liberalisation programme which took effect this

CONTINUED ON

The benefits of unrivalled experience

COMPUTER BUREAUX have traditionally provided computing power, at a price, to those companies which either had no mainframe instrument of their own or needed extra computing

What role have the bureaux in office automation, which seems ideally suited to the small, powerful and inexpensive computers now available?

The answer is their un-matched experience in economical computing and in establishing and maintaining the facilities that are the mainstay of office technology. One example is Automatic

Data Processing (ADP), a large and growing U.S. bureau with processing centres in North America and London.

Its success was built on pro-cessing using banks of mini-computers made by Digital Equipment (DEC) and a com-munications network which allowed users with a computer terminal on their premises to access the DEC computers quickly and easily.

But the computing habit be-comes addictive, and all bureaux users find their costs rise every month.

computers fell companies would of computer storage and com-be tempted to install their own, puter time and would be pro-ADP launched its On-Site ser- hibitively expensive if run as There should be little resistance

vice, now copied by a stream of a time-sharing service computer bureaux in Britain and the U.S.

frame, was chosen. The user mentary informationstill had access to the ADP net-House of Commons. work, however, and could com-municate with his own computer

Such an arrangement is well suited to the provision of automated office services by bureaux.

Such an arrangement is well retrieval system.

POLIS provides a thesaurus containing about 9,000 terms, all of which can be used for

The principal office activities most susceptible to automation, using up-to-date technology, are document creation and editing (word and text processing), filing and retrieval (electronic archiving), and distribution (electronic mailing).

ADP already offers the word-processing package Ciphertext, which is especially sultable for the writing and editing of tech-nical manuals. It has just concluded an agreement with a Swedish software house, Panalog, to offer a text retrieval system based on keywords.

This is a major application Commentated would be run on the On-Site Scient). Realising that as the price of 20/20. It needs a large amount

well suited to the bureau it has been in existence in the The object was to provide the approach. Scienn Computer form of Telex for many years. user with a computer of signifi- Services, part of the largest UK cant size on his own premises computer services group, pro-for a fixed monthly fee. In fact, vides POLIS, a system of com-the DEC 20/20, a small main-puter-based indexing of Parlia-

It runs on Scicon's Univac

containing about 9,000 terms, all of which can be used for retrieval and all of which are cross-related.

It seems that the House of Commons preferred a bureau system because of the expert support Scicon was able to pro-vide behind the package and the fact that while the system was started on a small scale it is expected to grow substantially.
That means an investment in

time, cash and people which can often be better left to a bureau. When complete the POLIS data-base will be categorised into nine groups, including Par-liamentary Questions, Parlia-mentary Processing and Press box," to run on its Prestel net-Comment (selective, says

Generation of text, storage

Information retrieval can be cept of electronic mailing, for

Add a powerful minicomputer and some advanced software to existing Telex systems and the result is message switching mentary information, to the the capacity to distribute, store and forward written messages.

Among the latest variations municate with his own computer computers and is a version of on this fairly familiar theme remotely using ADP's network. Univac's Unidas information are the autodialler which Such an arrangement is well retrieval system.

SERVICE BUREAUX

ALAN CANE

bers until a connection is secured, and the use of optical character-readers to speed the input of messages.

Viewdata systems provide another and more flexible approach. British Telecom has work. This is, in effect, a bureau operation, with British Telecom running the Prestel computers as a large bureau

Messages but in to a Prestel

network to the correct address and then displayed on the user's television screen.

This type of service is not limited to British Telecom. Computer Management Group (CMG) a UK-based bureau with Burroughs computers is one of the first British bureaux to consider running a mailbox service on its private viewdata net-

The Americans, whose bureaux have much greater telecommunications experience than their European counter-parts, are well ahead with electronic mailing. In the U.S. the market leaders are Telemail, Comet and a service from a small but significant bureau called Dialcom.

The Comet Service is already offered privately by BL Systems, the computer bureau subsidiary of British Leyland.

Services of the type offered by Dialcom and Telemail are more than simple messageswitching operations. Dialcom, for example, offers express mail, where priority can be given to a particular message in the sequence. It will correct spelling automatically and file documents for future use.

system. This can be used for processing bureau.

television set pass through the planning and posting appointments, reminders, meetings, and other activities and events

with specific deadlines. For example, the system will automatically warn a user who tries to plan a meeting for a time when a previous appoint-

ment has already been fixed. The system also permits access to sources of news and general information such as the UPI, Reuters and Associated Press computerised databases. Dialcom should be operational

in the UK early next year. Bureaux such as ADP have established networks which could be used for electronc mailing. It is already used in-ternally, but the decision to offer it as a service has yet to

be taken.

It is making progress in the development of "application machines," computers designed to carry out one specific func-tion for a particular class of user.

For example, ADP points to its hotel systems and local government housing maintenance systems, based on a powerful micro-computer known as the Rair Black Box.

The less esoteric end of the ocuments for future use. market should not be over-One of the main features of looked, however. If typing is all the system is the "tickler" or you need, there is always your executive calendar scheduling friendly neighbourhood word-

helps you get the most out of "digital."



'Digital" is the new miracle in telecommunications, a key to doing business in the 1980's. Already, it has transformed the telephone into a sophisticated source of information—your link to the future. Here in Dallas, Texas, we train professionals to help give you greater access to information through NEC digital telephone exchanges—another fruit of NEC's integration of the power of the computer and the reach of communications. Digital technology from NEC is speeding the conduct of business around the world. And it is one more reason why NEC has won the trust of customers in over 130 countries.



OFFICE EQUIPMENT VIII

Clear picture of objectives needed at all levels cities outside of the United States. This means you will get

"WE ARE running a business here, not a school," the manag-ing director of Southern Services protests in horror as his extols the value of education in office automation.

"Southern Services" is an imaginary company; its manag-ing director, "Fred Palmer," is played by a professional actor in a new training film from Business Intelligence Systmes: (BIS) Office Automation: Planning for Success

The dilemma for the ordinary company concerned mainly with the day-to-day business of stay-ing afloat and trying to make a profit is real enough, however. What is happening today is

exactly analogous with the advent of computerised dataprocessing systems in the 1950s. which caused, and is still causing, enough companies disruption, indigestion and heartache for it to be assumed that the lessons had sunk in indelibly. But have they? In many ways, the installation

computers to meet a company's data-processing requirements requirements seems, retrospect, straightforward.

The data-processing function already existed and was carried out by those people already suited to the rigorous discipline of computing. The computers, and their programmers and systems analysts, were isolated from the rest of the company in the large data centres that the economics of computing in those days demanded, while managers were often happy to be indentified with their company's step into the electronic future.

Nonetheless, executives who went through the computerisation exercise will remember equipment which failed to perform to specification, totally to massage the chief executive's ego, fear and apprehension from staff who had not had their proportion to original estimates. Of course, everybody was new to computers then; now there

veritable

consultants to inexperienced

along the right road. Journals remain the chief of information and advice, however. A recent payment to be kept there." survey has shown that 80 per cent of respondents used journals as a source of advice compared with 38 per cent for books, 45 per cent for professional associations, and 63 per

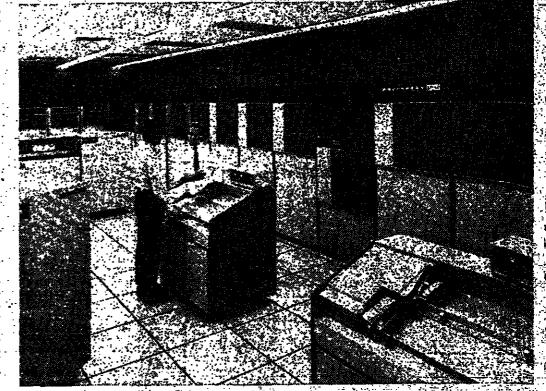
army of

organisation

help

cent for external training. Most organisations were money and more time on office automation. automation in the next 12 months than in the previous ciples:

of data-processingcomputers—and the survey at top managerial level to the



Banks and financial institutions are making increasing use of computer technology. Above: a Burroughs B-8500 computer, capable of processing all of Barclay's Bank's customers' accounts

SYSTEMS MANAGEMENT

ALAN CANE

(conducted by Urwick Nexos) showed that most organisations were mainly worried about ensuring compatibility between the various types of equipment they were using.

It points out: illustration of the problem was place in the new scheme of given by a management things properly explained, and services office in local govern-costs which soared out of all ment. It was planning to transer on to its word-process ing system, the names and addresses of 4.500 allotment holders and generate the annual invoices automatically.

"It would then need to be able to take the memory discover to the treasurer's department in order for records of

word-processing system had to be compatible after visiting a wide crosswith the department's computer section of companies, is that

According to Diana Duggan, a senior consultant with to set up a working party.

Urwick Nexos, machine prob- In his experience, only ab Urwick Nexos, machine prob- In his experience, only about lems are well down the list of 20 per cent of these working planning to spend both more priorities for successful office parties are chaired by the data-

She argues for six clear prin-It must be accepted that

Office automation uses the people are more important than equipment; terminals, disc memories, mini- There must be commitment

concept of office automation; message store and forward made to combine skills across

departmental boundaries. the provision of typewriters - were the responsibility of one manager, telecommunications, data processing and personnel management were the responsibilities of others.

Office automation demands a cross-fertilisation of all these skills. Mr Ronald Yearsley, of BIS, who has made a special study of the politics involved when an organisation takes on new technology, believes that within larger companies a new type of manager with respon-sibilities covering all the new technologies is emerging.

This manager, with responsibility management · for office systems, teledata-processing could come from management or from the dataprocessing stream,

Mr Yearsley's conclusion, the first response to the challenge of office automation is.

• The company must have clear objectives in settling for office automation and it must have a realistic idea of the benefits it expects to get. It is more important, Ms Duggan argues, for a company to look for "positive" benefits such as

• The company must draw up an action plan. The Urwick plan for office automation is will become available and use concerned with identifying ful to it.

preking technological winness the technology, assessing the is not easy. Most compares cost benefits, and defining an would be wise to seek the adulest malementation strategy." implementation strategy."

• The company must draw uporganisation and responsibilithe problem thoroughly ties, maintenance and support.

In the past, office services director will have to realise that for many of his staff the threat of the silicon chip that takes away existing jobs will take form and substance with the advent of the new systems.

The Urwick Nexos study advises: "A competent manager should auticipate these fears and have a satisfactory answer ready for each question. Whereances can be given. Where they are real, they should be dealt with using existing consulting and negotiating procedures or. If these prove inadequate, through the creation of an office automation strategy group to formulate new procedures in consultation with staff."

It points to the example of he Civil Service (potentially one of the largest users of office automation) which carried out trials of word processing

All 56. women were involved in planning the studies and proper care was given to health and environmental factors. At the end of the study only four of the 56 opted to go back to using typewriters.

enlightened organisation may need help is the identification of technological milestones spot ting the way particular supplies best use of advanced equipmen and avoid being trapped in tech-nological dead-ends

increased productivity than of advanced technologies include reducing staff. ing packet-switching, satelling transmission, teletex, local are: networks and digital facsimile, is is clear that an organisation Nexos report Managing Office must have some idea of when Automation says: "An action and how any of these options." must have some idea of when

of a specialist consultant, unbes-they are prepared to give me installation guidelines covering or more of their senior staff he equipment selection site survey. time and resources to research time and resources to research

Even the most prophete interpretation of where he so what does all this mean interpretation of where the for "Fred Palmer," the technology is going will to mythical managing director of little avail miles enough Southern Services, preparing thought has been given first or reluctantly and apprehensively keeping the staff who will use to install word-processing, election and aware of what is happening.

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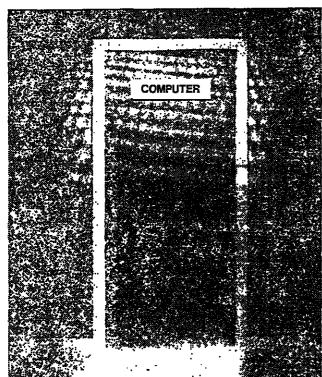
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applied to word processing-very necessary in view of the fact that 80% of the information received in any office arrives in the form of words, not numbers. The result? Wang are now among the world's leading manufacturers of word processing systems—and the first company to put

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tition in the sale of equipment logical change and the need to like telephone receivers and offer competitive services are already reshaping the economics PABXs, in the provision of communications services and in the of the communications business. and the PTTs will have to face construction of independent netup to increasingly heavy invest-ment requirements if they are to keep abreast of developments.

of as much as 40 years on some

types of equipment. But advances in technology are short-ening the gap between each generation of product. The "step changes" in electronic

switching equipment, for in-

less than 10 years, compared with 25 years or more for tradi-

In an effort to reduce their costs by achieving economies of scale British Telecom and its

West German counterpart, the

Bundespost, recently opened discussions on co-ordinating their purchases of optical fibre. If the idea is put into effect

successfully other types of cross-frontier collaboration could

Whether the PTIs will be forced to go still further is open to conjecture. In the last

analysis their policies are rooted in financial considera-

tions. They have strongly re-

sisted attempts by outsiders to

poach on their monoplies be-cause they feared that this

would result in loss of revenue.

But if the PTTs were to be con-

vinced that allowing private competitors freer rein would

follow.

tional mechanical equipment.

Against fierce opposition from British Telecom, the Industry Department has approved a pro-As a group the PTTs are, ject drawn up by a consortium formed by Cable and Wireless, British Petroleum and Barclays heavily committed to land-based communications. But ripping up millions of miles of coppe cable buried in the ground and Merchant Bank to build and operate a technically advanced replacing them with optical network. It is intended to link business subscribers in major fibre is an expensive and lengthy task. cities and will be able to carry high-speed data traffic, video-Changes conferences and other services as well as voice communications. Moreover, most PTTs are accustomed to following ex-tended depreciation schedules

Huge pressures

CONTINUED FROM PREVIOUS PAGE

The consortium has committed £50m to the first phase of the project, which it hopes to have in operation before the end of 1983. It also hopes to win approval to inter-connect its network with British Telecom services and to extent it to users in North America.

Liberalisation has also galvanised British Telecom into greater activity. It has an nounced plans to start a satel-lite business communications service in 1983, is studying the possibility of a joint broadcasting and communications satellite venture with the BBC and wants to speed up the installation of digital systems on its land-based network. But its investment plans are vestment plans are at present still somewhat overshadowed by the Government's continued restrictions on its borrowing

Authorities in the rest of Western Europe are observing the British experiment with curiosity and some apprehension. None of them seems prepared yet to embark on a similar course and most Continental PITs can be expected to resist strongly any attempts to loosen their national monopolies,

years are likely to present them additional traffic, self-interest might dictate a research with some difficult challenges. The quickening pace of techno- policy.

Gestetner



a specially developed Mini-Sorter module as an optional

extra for the 2020. A separate unit that can be engaged in seconds, the sorter is ideal for

servicing several copiers within the same building. With its own microprocessor controls, it

will collate, sort, or stack

multiple copies as required, saving hours of operator time

Development of an even faster copier with enlargement/

reduction capacity is well under

way, and the growing Gesterner copier range already includes

an A3 copier, the 2003, a

Products for today . . . and tomorrow

ONE HUNDRED years ago this year. Usefelier invented a simple displicating system. This invention was the start of a worldwide reprographics industry. Today, Gesteiner is start to the first first start.

still the first game in international reprographics, producing a vast range of duplicators,
copiers, ancillaries and supplies.
Whatever the copying need,
the company sells equipment to
meet it. Production is backed
up by a global sales and service
network extending to 132 network extending to 132 countries and supplying over Apart from the three main

product lines, copiers, stencil and offset duplicators, and all the supplies for these machines, Gesteiner also provides a comprehensive range of ancillary products, ranging from elec-tronic master scanners and platemakers to paper finishing and handling equipment.
Recently, Gestetner has expanded into phototypesetting
systems with the Gestetner Compugraphic range. In short, Gesteiner supplies everything and anything to do with copied

Traditionally. Gestetner has been associated with the stencil heen associated with the stencil feature options in between duplicator, and because of the There is, in fact, a machine to great strides that have been meet almost any conceivable made over the years in the development of these machines the stencil process remains a prime contender in the office equipment scene. In fact the process still accounts for over half of the company's annual

Range

Nowadays Gestetner's fully automated duplicators are the plain paper copier, the marketed in conjunction with growth in sales of Gestetner's advanced electronic master scanners in a system/package known as a Faxil unit. These electronic facsimile scanners have given a whole new meaning to the stencil duplicating process. They eliminate the the constant development of need to type or correct masters. and will cut a master quickly ment that has enabled the from almost any document company to maintain the including artwork paste-ups and growth needed to reach its pre-

Gesteiner products range from plain paper copiers to fully automatic table top offset equipment and ancillary office equipment

1573 scanner, an ideal Faxil unit

for the modern office.

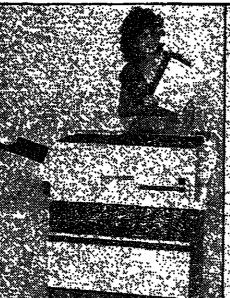
The 1566 offers such innovamaster loading and election, servo-assisted print height adjustment and variable speed control up to 150 copies per

Although today's technology has given the stencil process increased speed, simplicity, and convenience, it is stencil's economy, efficiency and flexibility that are responsible for the current wave of popularity.

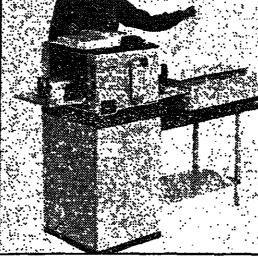
. The new 1566 stands at the head of a range which extends right down to a basic manual machine, with a wide variety of copying need-and all can be used in conjunction with a versatile scanner. The stencil duplicators are

made at Gestetner's large Tottenham factory, from where about 90 per cent of all the machines made are exported to the company's sales subsidiaries and agents throughout the world in Japan, which could certainly be called the home of the plain paper copier, the micro - processor - controlled duplicating systems to economy-conscious Japanese businessmen over the past few years has been impressive. Praise indeed. Stencil duplicators apart, it is

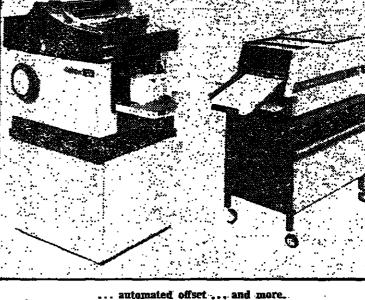
new and improved office equip-



Copiers ...



... electronic stencil ...



The 2020 copier incorporates

diagnostic control. This pin-

points any faults on a digital

display so that, in most cases,

the operator can rectify the

reliable, and with no fuser

lamps or rollers to heat up

there is no warm-up delay.

In the past, several plain
paper copier manufacturers

have sought to use cold pres-

sure fusing in their machines.

Up to now, results have been

mixed, as costly coated or

specially prepared paper has

generally been required. With

a new design approach, Gestetner has solved this problem, and the 2020 uses

ordinary copier bond paper.

recourse to an engineer.

Benefits

equipment, mainly confined to professional printers. They required considerable skill and expertise in use.

The size of the Gestetner offset unit has been gradually reduced to realistic office scale, while the use of electronics and automation of the process enables minimally trained staff to use the machines and the platemakers which produce the master, or plate.

Quality

Offset is generally used in the office for more intensive work, and gives the highest image quality of any reprographic system, as it is a real printing process. It offers economies of speed and productivity coupled with precise registration and image control for overprinting colours and text. Gesteiner's offset machines

sent status. Some 16 years ago borough factory in Northants, Gesteiner is currently intro- Gesteiner was among the first and such has been the success ducing a completely new range in the development of small of the range that over 90 per of machines, the 1500 series, top offset machines, seeing the of which is the Model 1566 market potential of this process micro-processor. are produced at its Wellingmicro-processor controlled for use in the office.

machine—usually combined Up to that time offset lithowith an equally sophisticated graphic machines were highly fast-selling 319 model. Specially duced there is the 329, a

complex and bulky pieces of developed to handle repetitive "stop-start" work, the 329 uses the latest micro-electronic control circuitry to automatically load, prime, print, and eject plate after plate without the operator having to touch the controls. The 329 can effectively he left to get on with it, while the operator can perform other duties.

Print quality, as with other Gestetner offset machines, is excellent. The company's offset range is also extensive, running from the "table-tops" like the 319 and 329 to more substantial floor-standing machines such as the 211, for in-house printing.

Gestetner has had great success in marketing offset packages comprising a complementary platemaker and dupli-The latest of these systems is a complete copy centre for the office capable of both short-run, plain-paper copying or long-run, offset duplicating. Called "Autosystem 100," the system links the 329 duplicator with another new Gestetner machine, the unique duai-role copier / platemaker. the 2010PM.

Using the combination, offset

the busiest office. The plates are then loaded on to the 329 duplicator and the 2010PM can be used to make convenient plain-paper copies.

Autosystem 100 is aimed at satisfying business needs for producing medium volumes of high-quality copies at a cost much lower than that of a conventional copier - and at the same time being able to produce single coples.

Gesteiner also markets a wide range of platemakers for the production of paper and metal offset plates. (Paper is used for shorter copy runs, while a metal plate will give up to 40,000 copies.) There is even a wallmounted model, the PM9, which has a single push-button for complete simplicity.

Expansion

The most rapidly expanding area of Gestetner's operation is plain paper copiers. This side of the business has exploded in importance during the last four years. Copiers have been widely available since the early '70s, but a policy decision was plates can be made on the made by Gestetner to maintain 2010PM at a speed to satisfy a low market profile until the

company had secured a solid base in the key technology. This decision was taken partly to avoid some of the expensive and often disastrous mistakes made by other reprographic equipment manufacturers during the '70s. Now, with a newly developed

range of advanced machines, and the worldwide sales force backed up by strong service and supplies follow-up. Gestetner is confident of achieving a significant market share on a global scale. Many copier manufacturers have failed to do so in the past through failure to provide such essential back-up.

As a result of the company's move into progressively more advanced technology products, Gestetner has just introduced the third model in its new 2000 copier range: a 20 copy per minute machine, the Gestetner 2020 which puts it in the forefront of modern copier development. When the prototype of this machine was demonstrated at the Hanover Trade Fair earlier this year, an independent marketing con-ference described it as "one of the few genuinely new products exhibited."

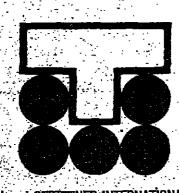
versatile 10 copy per minute model, the 2010, and even a compact wall - mountable machine, the PF9, to save space in a crowded office. Ancillaries

In line with the company's policy of providing all the reprographic equipment needed in office life, Gestetner markets a wide variety of other asso-ciated ancillary products. These include offset process cameras used in the studio or darkroom for making plates and instant bromide or PMT prints the latest mono-component toner and cold pressure fusing, and also has a micro-processor of artwork. There are also Gestetner paper collators, joggers, and folders, as well as guillotines and trimmers for office use.

For quality presentation of immediately without copied documents. Gesteiner supply the Velo-Bind binding system. Securely binding documents up to 1-inch thick, in hard or soft covers. Velo-Bind Cold pressure fusing prohas already proved very popular vides substantial advantages since it has the advantage over over more conventional heat other binding methods of a fusing methods, dramatically cutting running costs. Its simplicity makes it very strong rigid spine. In recent years the company

has diversified into photo-typesetting equipment, and now supplies the Gestetner Compugraphic range systems. The Compugraphic equipment designed specially for office use and is so easy to operate that a competent typist, after a short introductory course, can produce quite complex layouts, in a wide range of typefaces,

The heart of the system is a visual display unit that allows the operator to proof read the copy before it is set, using a To meet office paper-handling memory bank to play back the needs, Gestetner will provide text.



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At Byfleet, Gestetner research and manufacture photoconductor drums, both for their own copiers and for export to other manufacturers.

paper copier technology is the selenium photoconductor drum, a precision-turned aluminium cylinder coated with a mirror-like film of selenium alloy. It is this that electrostatically reand deposits it, in the form of fine toner powder on to paper. In the late 60s, Gestetner decided to master the research and manufacturing processes for his essential part of the modrn reprographic scene. Ten

THE HEART of modern plain developing ever since. Apart from supplying drums

for Gestetner's own copier range. Byfleet supplies selenium types of plain paper copier in use worldwide, and also concords the image to be copied ducts research programmes for many other major copier manu-

facturers.

Currently, the plant is working around the clock in eighthour shifts to meet demand for its drums, and order books are full for a year in advance. A further £800,000 is being inars ago the research and anufacturing plant at Byfleet jected by Gestetner into the as opened, and it has been plant as part of an overall

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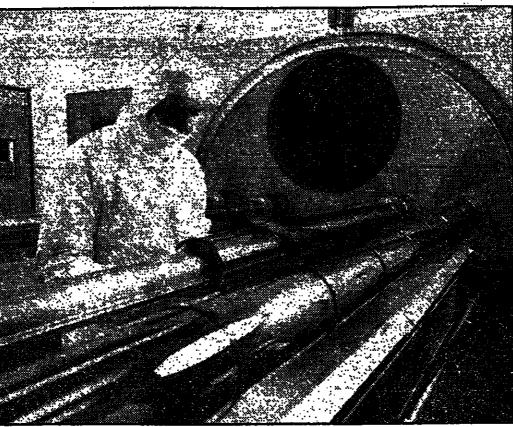
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Photoconductor drum coating under clean room conditions: fine tolerances are crucial

Byfleet, bringing the total so far invested to over £4m. The expand the plant's capacity.
Some of the new funding

vacuum coating plant to meet projected future orders. When this is completed, total production is expected to be boosted

by 40 per cent.

Money will also be spent on extending "clean room" facilities at the plant. This is the area where special clothing has to be worn, and ventilation specially filtered and controlled to ensure the extreme to ensure the extreme mechanical and chemical tolerances of the coated drums are not impaired. More automated handling equipment will be installed, and the unique auto-matic test-scanning equipment will be computerised.

Scanners

The scanning equipment, manufactured to Byfleet's own design, and on which every drum is tested, simulates the characteristics of any make of plain paper copier and records drum performance on an indivi-"fingerprint" readout. It ensures that every drum produced performs to strict electro-photographic specifica-

Lindsay Malcolm. Byfieet's managing director, says that research is now being directed towards developing alloys which will stand up to a much longer life. Whereas an average copier produces 100,000 copies The Byfleet plant was established in 1971 to produce drums for Gestetner's entry into the copier market. Backed by appropriate research and development expenditure, output of from a photoconductor, a faster drums forged ahead, and the 500,000th came off the lines in March of this year.

non-impact printing device may make 500,000 to 1m copies from the drum in the same period.

Such has been the growth of output, and outside demand, that Gestetner itself is currently using less than 10 per cent from Byfleet in its own copiers. However, with the growth of Gestetner's own copier husiness. offtake will rise to about 25 per cent of total production, in the

Research

Some indication of the precision and quality aspects of the Byfleet operation can be gauged from the fact that about 20 per cent of the staff at the plant are engaged in pure research and a further 12 per cent on product development. Furthermore, some 25 per cent of all production workers are involved with some aspect of quality control.

Part of the new expansion programme includes taking on

international research and development programmes ensure the best products for use in Gesteiner's varying worldwide markets.

Continuing

FACED WITH Japan's increasing involvement in the office equipment sector. Western equipment sector. Western companies are intensifying their efforts in research and development—and this move is "abso-lutely essential to keep you ahead of the game." emphasises Mr Michael Maynard, the director of Gesteiner's exten-sive research and development

international Gestetner's research and development projects are co-ordinated from its UK headquarters at Tottenham, North London, while important research contributions are also made by the group's technical units in Denmark and Germany.

Gestetner is not the only company to benefit from this intensive R and D programme. Other companies have, for example, made good use of technology from the selenium photoconductor drum plant at Byfleet, Surrey, and from the Gesteiner paper mill at Kilbagie, in Scotland.

new research staff to increase

the capacity in that area.

Research work from outside customers is undertaken by a completely autonomous unit and

is completely confidential to the commissioning organisation.

selenium drums, Byfleet does a brisk business in drum

recycling. The drums are returned to the plant after their useful life, and are then

stripped of their selenium coating. The reclaimed selenium sludge is returned to the

supplier for refining, and the stripped aluminium drum cores

are re-coated for use once again.

on average about one year. With

a working life of perhaps 5 or 6 years, a copier would require

about six drums during its life-

time. With some customers, a

fairly high proportion of their

requirements can be met with re-cycled drums.

So the alloys themselves have

With a constant eye to the uture, Byffeet is actively

investigating different photo-

conductors for the new genera-

tion of copiers with faster

process speeds. These will need drums with photographically faster coating films. With the so called "intelligent copier"

linked to a computer or word

processor data bank in mind,

the plant is also developing photoconductive alloys for use

with laser imaged non-impact printing devices. Non-impact printers are able to make "hard copies" direct from electronic

The big difference, essenti-

ally, is that non-impact printing devices have a very low light-

conventional copiers, so that the

film has to be many times faster
—some 25 to 30 times faster

than conventional selenium

However, Mr Malcolm does not see the non-impact printer market really taking off in a big way until, say, 1983-84. Be-

cause of this, the new alloys his research team are developing are unlikely to be commercially

exploited before then. "Growth

in the copier market is evolu-tionary rather than revolution

Nevertheless, he sees a great potential for the copier marker

per se. The plain paper copier, he says, has been one of the biggest growth markets in the

world consistently over the last 15 years. He does not envisage

any diminution in that growth

"When you add to the present market the non-impact printers, I think you are looking at a pretty big growth curve," he

future.

digital data.

drum models.

Potential

ary." he points out

Once installed in a copier in the field, a drum coating lasts

Non-impact

These two units have achieved. international recognition for developments in their fields. Gestetner also undertakes research projects for other companies which seek to benefit-from the group's wide experience in the reprographic field.

At Kilbagie, for instance, the research team was one of the first to fully appreciate the advantages of a fundamental advantages of a fundamental change in paper-making techniques, by moving from conventional acid systems to a new alkaline method. This technique, which uses calciumcarbonate as a paper filler, offers major economies and produces a higher grade of paper.

Technology.

Since this development at Kilbagie, there has been con-siderable demand from international paper manufacturers for technical assistance from the research and development divi-

sion at Kilbagie.

At the Tottenham head-quarters, the R and D team has advanced the stencil duplicator to its present stage of refinement and automation to enable it to continue to dominate in its sector of the office equipment market. The company, having worked

for years to bring the traditional duplicator—and later the offset duplicator — to its present advanced design, has now made ing the technology of plain paper copiers.

Thus, Gestetner was also the first manufacturer to take full



Investigating the structure of conier toner powder on an

Further more, Gesteiner has lary items and office Si

R&D sets the pace

work in the photoconductor field: as well as advanced emulsion technology for inks and powders for improved copier toners. Since Gesteiner's distribution

network covers 132 countries, one of the important functions of the research team is to en-sure that Gestetner products function under a variety of climatic conditions. In many markets, local conditions dietate basic alterations in machine dent that with such project design and supplies specifica-

For example, research tech-nicians have produced special inks that function in humid and tropical climates. Other markets in Asia require machines that will accommodate oriental paper

to have some of the most Gesteiner's policy is that all advanced facilities in its field, its products mathines and opensored advanced research must be able to within programmes at universities in frames of thingle and batthe UK. Typical projects have included port packaging has been devork in the photoconductor field veloped and mathines are presswell as advanced emulsion, tested in climatic simulation chambers to ensure that they function upder the idest rigorous conditions overseas

electronics. laser and materials behaviour in the full range of office nardware

the intelligent copier, use of lasers and the advanced types of stencil and offset processes pow being developed, that Gestetner is set to play an even greater role in the international office equipment

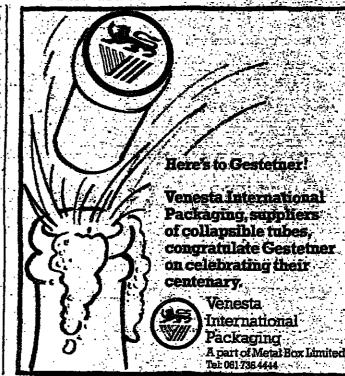
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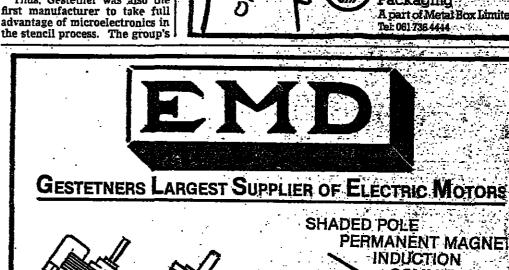
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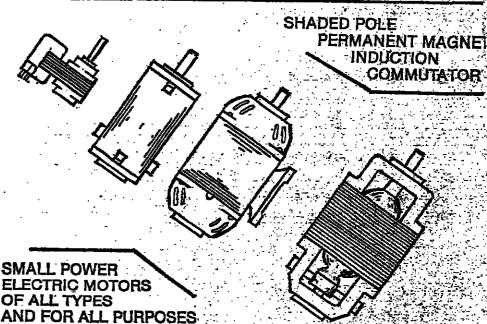
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Gestetner

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A day in the life of 3,000 salesmen

THE KEY to success in the reprographic business is to pub-vide reliable and economical equipment, exactly suited to the needs of the individual user.

And this service Gestelner is well able to provide not only because of its wide product range and its emphasis on research and development but also because of the geographical scope of its service and illational

Worldwide, Gestelner has more than a million customers—and one might wonder if the group, which also has 3,000 sales personnel in 132 countries, has sufficient involvement with the varied needs of its indivi-

But the users of Gestetner equipment are enthusiastic about the company's ability to meet the wide spectrum of their reprographic requirements which range from the occasional convenience-copying jobs to highly-intensive in-plant printing projects.

One customer, a company director, comments; "When I called the Gesteiner representative, I found more than just a copier salesman. He was able to show me how to keep copying costs down in my particular business in other words, he matched his machines with my company's needs."

As a result, adds the client, the Gestetner representative produced a machine "which Furthermore, the Gestetner gave us real economy and representative is responsible for the right level of service and overseeing the installation of let us off the hook of high copy

Gestetner believes that its success is based not only upon the quality of its products which range from plain paper copiers and duplicators to offset printers and a wide variety of ancillary equipment and supplies but also on the way that the company selects its sales. personnel and on the system by which they are trained to that the customer receives the maximum benefits from the equipment.

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Understanding the different needs of a wide range of office

users and recommending the product which is right for the job.

beneate. Thus, a vital aspect of Gesteiner staff training is the ability to assess the volume and frequency of copying required by each client—whether that customer is an individual buyer or a large international com-

Such information is the key factor in recommending the right reprographic equipment from the growing range of Gestetner business systems. Office products range from plain paper copiers to the latest automatic table-top offset duplica-tors. And, in between, there is variety of equipment to suit almost all volume/cost situa-tions in copying.

Cost per copy

The usual cost per copy from plain paper copiers ranges from 2p to 7p a copy and this is reduced to less than ip a copy with the latest Gestetner automatic offset equipment.

Furthermore, the Gesteiner representative is responsible for the customer's machine and for providing training for the user.

He also arranges training in one of Gestetner's Customer Training Areas for those clients who purchase more advanced equipment. Customer training facilities are located in London and most of the main provincial centres of Britain. These centres, are equipped with a wide range of Gestetner machines—and the service is free for the first operator sent by the client company.

To ensure that the customer The Gesteiner philosophy is achieves full economic advanthat the product must provide tages and dependable follow-up the individual user with clear service for the equipment, each throughout the group. And long is supported by factory and

salesman Gestetner closely with his other colleagues -and their activities, in turn, are closely co-ordinated by branch managers and regional sales personnel.

In the case of larger clients, as national and international companies, Gesteiner operates a Large Account Division, which co-ordinates negotiations which may, for example, hinge on the question of cost/ unit price or specification changes and customised business applications.

With each item of equipment sold by the Gestetner group there is a comprehensive service contract. And to provide the fastest-possible back-up service, engineers are in touch with Gestelner offices by radio control so that in the majority of areas a call can be attended to within a matter of hours.

To further ensure that servicing is carried out as efficiently as possible, the company has developed a handy "parts pack" which each service engineer carries with him.

likely to be needed by various groups of reprographic equipment. Gestetner's stock control department also has a computer link with the group's central warehouse in the Midlands -thus, any special items or parts can be rapidly despatched to area service engineers within

Another Gestetner service also simplifies the re-ordering of paper, ink and other office supplies, as the company regularly keeps in touch by telephone with its customers. In turn the client can also contact Gestetner's tele-sales team if he or she needs to order extra supplies.

The British sales operation of Gestetner is, in a sense, reflected in the steady expansion of the group's large overseas sales and service projects. Gestetner International—the company that decides the sales policy and organisation, worlddard of service is maintained dealerships. And each facility



Nationwide coverage: there are Gestetner centres throughout the UK and Ireland

local staff-from engineers to management—will have re-ceived specific training, based their British counterparts.

Confident

Gestetner U.S.A. is by far the largest marketing unit in the group and is headed by Mr Ernest Rassch, its President and Chief Executive. The subsidiary probably has one of the most advanced distribution net-works in the office equipment market in the U.S.

Thus, the Gestetner organisation is strongly committed to further advances in the U.S. market—the group has, for example, recently become involved in marketing decentralised office systems.

There are 71 Gestetner branches throughout the U.S. -ensures that a high stan- in addition to a network of 235

These parts are pre-selected before a new product or ser- service-school trained techni-by computer as the ones most vice is launched overseas, the clans.

Mr Ernest Raasch is confident that Gestetner is especially well-placed in the U.S. copier market, as well as in other areas of reprographic equipment. Last year, for example some 375,000 copiers were sold in the U.S. alone.

Among the group's new products is a micro-computer, designed and manufactured in the U.S. for handling mailing lists. With this system, Gestetner also offers a computer software programme called "Mail Man "-the first of its kind to be marketed in the U.S.

This system can, for example pre-sort 70,000 names and addresses and has 36 different methods of selection. Using a floppy disk system, "Mail Man" can also handle 70.000 mailings at greatly reduced costs, com-pared to other systems. This mail-handling development is yet another example of Gestet-ner's aggressive and successful policy of widening its product range in the highly-competitive field of office equipment.

And the lighter side of product demonstrating

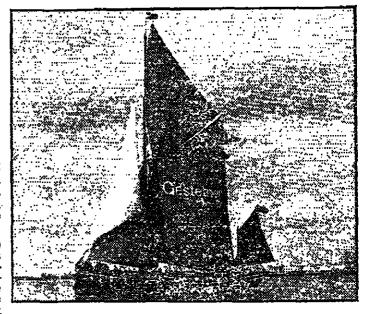
OUTSIDE THE showroom, Gestetner keeps its products in the public eye through a variety of promotional activities, ranging from expedition sponsor-ship, to a sailing showroom, and participation in all major trade fairs and exhibitions.

Next week, from October 20 to 29, Gestetner will have its equipment on show in Birmingham at the International Business Show (IBS), one of the prime annual showcases for the international office equipment

For the third year in succession, Gestetner will dominate the show with a stand occupy-ing 778 sq metres exhibiting 23 different Gestetner reprographic machines, seven of which are new to IBS. Two of these machines, the new 2020 copier and 329 automated offset, were launched just prior to the exhibition, and there will also be new Gestetner phototypesetting equipment on show for the first time at IBS.

The Gestetner stand is so large that the IBS organisers required a walkway to be put through it. General manager of Gestetner's UK sales subsidiary. Mr Bill Reygate, comments: "This is a spectacular working showroom transported to an exhibition site with the very latest Gestetner equipment. We want visitors to see how good reprographics can be."

One of Gestetner's sales demonstration vehicles is a restored Thames sailing barge, the S.B. David Gestetner." Fitted out as a showroom, the sailing barge carries the full range of Gestetner reprographic equipment. The "David Gestetner" sails to British and European ports from spring to autumn — "flying the flag " for Gesteiner and British industry. Built in Harwich in 1915, Gestetner's flagship is the biggest of the wooden spritsail barges built, and is the only sail- young people from many ways."



S. B. 'David Gestetner': flying the flag across European waters

ing harge involved in actual

Reliability

Gestetner's sponsorship commitments further extend this pioneering spirit. It has been a longstanding claim that the company manufactures equipment to suit virtually any copying need, anywhere in the world; a claim supported by several recent scientific and explorational expeditions. The Zaire River expedi-tion, Operation Drake, and the Transglobe expedition have all benefited from Gestetner in-

Apart from reprographic equipment and supplies for use by the expeditions, the company has also provided other essential equipment. It was from a Gestetner-funded giant inflatable craft that members of the Zaire River team cought a hitherto unknown species of fish - named "Barbus Gestetneri" as a result. Unfortunately the fish, a type of carp, does not match Gestetner's capacity for reproduction anywhere under any conditions.

Gestetner 1566 Faxil unit to proessential paperwork. duce Despite being housed in the brigantine "Eye of the Wind." and subjected to all the excesses of the tropical climate, the equipment remained thoroughly reliable throughout the two-year

expedition. Such expeditions, of course, are a proving ground for Gestetner equipment. At the other end of the climatic spectrum from Operation Drake, the British Trans-globe Expedition, for which the company pro-vided a SnowCat vehicle—the "Gestemer Groundhog"—is currently completing the hazardous North West Passage to the Arctic Coast.

When the expedition's winter base camp was set in sub-zero conditions on the edge of the Antarctic ice plateau they had a The expedition leader, Sir Ranulph Fiennes, radioed this message to Gestetner: "Our duplicating machines and scanner, for use in London and the Polar camp, have been in-valuable. Transglobe would not have got off the ground at all but for the steady support of Operation Drake, which in- Gestetner's specialist equipment volved scientists, explorers, and and help in a hundred different

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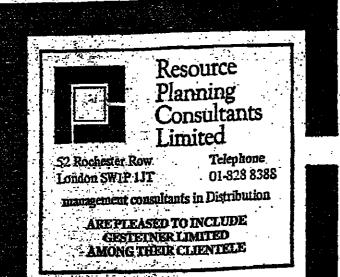
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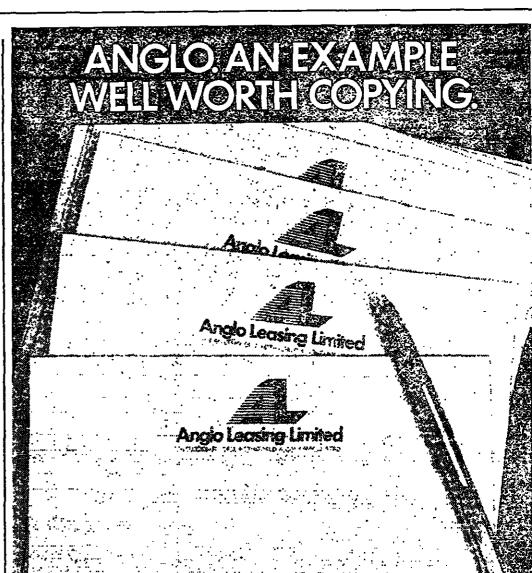
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Gestetner

Scottish paper successes

SCOTLAND IS the base for Ges-teiner's special papers and coated paper products production. Heavy capital expenditure in recent years has transformed the paper mill at Kilbagie, Alloa, into one of the most the production of the special papers needed by today's sophisticated reprographics industry. In parallel at Stirling has been established a new fac-tory for the production of special coated papers to make masters for duplicating and off-

While Stirling was purpose-built, the manufacturing com-pany of J. A. Weir at Kilbagie was already established when wide Gestetner purchased it. At the tion. time of the take-over the company was producing not only the paper suitable for Gestetner's range of duplicating machines but also paper and card for the general printing trade. After the takeover, Gestetner began to move the company towards the types of paper it needed for



New paper roll winding plant at Kilbagie Mills, Alloa, Scotland

other than their own, the name of J. A. Weir was revived and Gestetner began to take advantage of the export opportunities

Over the years there has been considerable innovation at the Kilbagie plant. The greatest breakthrough being the change initiated by the company techni-cal division in the fundamental

Later the company began to way the paper was made. This develop paper for machines change was from the normal system which used calcium carbonate as a filler. Not only tage of the export opportunities economies of production but a available through its own world-wide sales and service organisa- was produced for reprographic

> The Kilbagie mill has now become one of the acknowledged world centres of this method of papermaking and the mill's research and development work in this area has brought a grow-ing number of papermakers worldwide to Kilbagie for technical advice and help in convert-ing to this process.

than it should be. The reasons

for this are partially due to a misunderstanding of the overall

economies involved and partially

In the ultra-modern plant at Stirling is produced the coated paper used to make the masters for the electronic stencil process. The plant, originally designed to produce 20m masters per year, has already seen a doubling of capacity.

One quarter of the output is

fully prepared as complete masters and sent to Gestetner's Rex Rotary subsidary in Denmark. The balance is sent to Gestetner's Tottenham factory for making into masters

The million dollar Chinese connection

THE VAST emergent Chinese market for Western products has been successfully penetrated by Gestetner through the enterprising use this summer of a four-month promotional mobile symposium on a train. Covering 9,000 miles, Gestet-

ner's two converted railway carriages brought the benefits of Gestetner reprographic equip-ment to end-users in 17 cities throughout China. As a result, a record \$1m worth of export orders have been received and more are expected. Gesterner's train is the first

such promotion mounted by a Western company in China, and its success has opened the door for other companies to follow its lead. Currently, similar mobile exhibitions are being planned by American, Italian and Japanese companies.

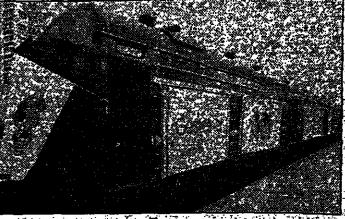
Gesteiner has been trading with China for the past 50 years

with clima for the past of years through its Hong Kong sales subsidiary, and is a major sup-plier of reprographic equipment to both central and provincial government agencies as well as prominent educational, medical, and industrial establishments. With the relaxing of trading conditions in China, and with education high on the list of

priorities within the country's Four Modernisations programme, it was felt that the time was ripe for a more direct approach to consolidate Gest-

Gesterner Hong Kong's managing director, Mr Jack Crook, who negotiated the project with China's Ministry of Railways and the China Council for Production of International Trade motion of International Trade, said: "Our aim was to get to the end-user and educate him to choose the correct equipment for his needs." With its experi-ence in the Chinese market (Gesteiner manufacture special (Gesteiner manufacture special width machines for wider Eastern papers), the company was well poised. "We knew our market and what they wanted so we were able to tailor-make our presentations accordingly," commented Mr.

To this end, one of the two railway carriages was converted into a 60-seat theatre and the other into a showroom and reception area. Throughout the tour, slide programmes, seminars and practical demonstrations were given in local dialects. More than 10,000 people from Kumming in the



Trans China express: over \$1m worth of expert others for

south up to Haerbin in the They strike hard out realistic

south up to Haerbin in the north visited the exhibition. bargains and stick to them, he Particular interest was shown in Gestetner's plain paper if it with to make friends to copiers, which were ordered in preference to the Japanese This project has centented our machines available in Coina. Phile project has centented our machines available in Coina. Phile project has centented our machines available in Coina. Phile project has centented our machines available in Coina. Phile project has centented our machines available in Coina. Phile project has centented our machines available in Large numbers.

During the promotion the discretic has been establicated asservice centre has been established in Refining, with experts his return he said that although who continuously investible flood work, the project was a great of orders stemming this the suress by any standard, and the Chinese had welcomed the to open another the country.

Lease or purchase? That is the question

For the competitive business seeking to upgrade its reprographic equipment, leasing offers an economic alternative.

TO KEEP ahead or nowadays even abreast of the competition

requires constant up-dating and investment. This is as true of the office as it is of the factory. All the time new, improved The chances are though that

due to the scarcity of that ever-vital resource—capital.

Advantages On both counts Gesteiner is in a unique position when it equipment is being made avail-able which offers ever greater comes to reprographic equip-advantages to the office user. ment. The economies of reprographic systems are often misup-dating office equipment is further down the priority list represented by manufacturers with a narrow range of products

> for situations for which the equipment is patently not suit-able. This immediately results in disappointment, and future disbelief in claimed economies. Gestetner, on the other hand, with a broad range spanning duplicating, offset and copying equipment is in a unique posi-tion to recommend the correct choice for a particular situation and then demonstrate the eco-nomic advantages which are there to be had.

which they attempt to justify

Solution

microprocessor-based controls

Being aware of the cash-flow problems associated with the outright purchase of equipment, Gestetner determined to find a solution for potential customers. In 1962 Gestetner was the first of the reprographic equipment. nanufacturers to arrange leasing facilities. Today some 25 to 30 per cent of all Gestetner's customers take advantage of these facilities and in the case of items such as plain paper copiers, the percentage is even

CopyGirl centres

expand in UK

THE LOCAL "copy-shop" offer-ing over-the-counter office copying and duplicating has, in the last decade, become a recog-nised part of the high street scene. Taking advantage of its complete range of equipment and the rising popularity of this sector of the reprographics market, Gesterner is currently setting up its own nationwide chain of licensed copy-centres— called CopyGirl.

Established on an independent licence basis, CopyGirl centres provide a complete reprographic service, using Gestetner's own equipment.
Customers can bring documents
into a CopyGirl centre to be
copied or printed in small or
large numbers, which can be collated and bound in the shop as well. The centres also carry paper and supplies for customers' own equipment, saving time when ordering these items.

Quantities

CopyGirl centres have proved very popular, particularly with small businesses and the self-employed. Such customers often wish to avoid capital outlay on their own equipment yet have an occasional need for large quantities of mailings, as well as regular copying of documents such as reports and presenta-

At the moment there are 18 CopyGirl centres around the UK, but the chain is rapidly expanding and a further 30 sites will have been allocated by the end of this month, from Plymouth to Scotland. In fact

Gestetner CopyGirl is determined to establish a national presence in the High Street

CopyGirl is growing as fast as suitable locations can be found. Although CopyGirl licensees are the sole owners of the business when their licences are granted, the operation will trade under the CopyGirl name and gain the benefits of Gestetner's support. The licensee provides capital for operating the business having paid the licence fee, and the only other payment is a service charge based on sales

Gestetner is currently receiving applications from potential licensees and is constantly seek-ing suitable new premises in high streets and other business centres, throughout the country.



Inside the Gestetner CopyGirl

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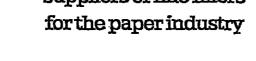
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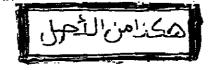
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Guy de Jonquieres shows how three organisations are taking advantage of the advances in information technology

Star Computer: the electronic office arrives

WHEN Star Computer a small but rapidly expanding computer systems company, moved its headquarters from London's West End to Shereditch last year if decided to follow some of its own advice by setting up an electronic

"Being computer people. we decided on a computer solution," says. Mr. David Blechner, joint chairman and chief executive. "We put a The terminals were linked to a powerful but compact comglas₃ cubicle in the reception

ares.
The system took only five weeks to develop and has been almost trouble-free since it entered service. By installing video display terminals which it assembles itself, Star kept the cost of the project well below £100,000.

After some initial diffidence among employees, the system has undoubtedly proved a success. Though many of Star's 100-strong

staff are computer professionals, even raw recruits have found it easy and convenient to operate and now treat it with the same fami-

checking in" on their perterminals. Their arrival is immediately re-corded on a computerised "staff locator" displayed on a terminal on the desk of the switchboard operator. In the same way, employees can advise the operator of their whereabouts.

Paner has been virtually abolished for internal communications. These are now sent by typing messages into terminals and sending them to an "electronic mallbox". Because the same memorandum can be circulated as easily to 50 people as to one. Mr Blechner observes with some misgivings that the volume of internal correspond-

ence has risen sharply. When the system was installed, Mr Blechner disposed of all but one of Star's

building its own private micro-

wave radio network, now the biggest of its kind in Britain.

It was developed originally to

carry closed-circuit televised

conferences so as to cut the

need for business travel in

The video-conference plan

was never realised. But the

network is widely used within

the group to carry 10m tele-

phone calls a year and data

communications traffic between

60 factories and offices, includ-

relay computerised production

schedules to the modern Metro

work. This enables executives

central electronic "mailbox,"

car factory at Longbridge.

ing the BL computer centre.

used to type forms which can-not be handled on a printer. The system is used as a word processor to prepare all printed correspondence and reports and keeps computer-ised files of all frequently-

used names and addresses.

As well as handling routine tasks like payroll and accounts. Star's electronic office keeps information on clients. When a client calls in, Star Executives can summon up immediately on their

pleted contracts, work in progress, billings and so on. Some employees have used their own initiative to find new applications for the receptionist at Star's head-quarters has devised an

electronic diary," in which

she records information about executives' future appointments and travel plans. Mr Blechner says that the system has enabled Star to keep tight control of administrative and support staff.

turnover of £3m last year, employs only two bookkeepers, two typists and two personal secretaries. The typists work as a "pool," and Mr Blechner reckons that without the system Star would need as many as four

more to handle its needs. The system suffers from minor technical problems about twice a week. But as all important information is stored permanently on com-puter disc memories, the worst that is likely to happen or letter which is being com-posed when the breakdown

OCCUTS. Human fallibility is potentially a much greater threatconstantly to update clients files. The system can be sabotaged very casily by the staff simply doing nothing."

says Mr Blechner. Star has not whether to market its electronic office. But it has supplied one system for a nominal fee to a client in the



Systems (left), and John Leighfield, director, with a terminal

liarity as the telephone. Employees start the day by

BL Systems: providing backup for the parent BRITISH LEYLAND, labouring under heavy losses and acute industrial problems, may seem coined and before Sir an unlikely player in the information technology game. Michael's appointment. More than 10 years ago it started

Yet the group has for many years taken a lively interest in developments in business communications and automation and is among the leaders in Britain in applying them to its operations.

Its commitment is symbolised in BL Systems, set up as a separate subsidiary soon after Sir Michael Edwardes became BL chairman. It drew together staff and skills previously scattered throughout the errup and it now employs 1,100 at its headquarters in Redditch.

BL Systems' brief is to advise on, develop and operate technologically advanced systems to improve the gathering treatment and distribution of information for most of the group's

Its formation, according to John Leighfield, its managing director, reflects Sir Michael's conviction that money spent on systems which enhance officiency is not an overhead but

BL's involvement in what is from which they can be rapidly needed to track down the loca- automation and because of the

It has also acquired the UK marketing rights for the system, which was designed in the U.S., and has started to

Government's liberalisation of it means that at present it can per cent of the total. only operate as a closed loop and cannot be connected to the

public telephone system. ng the BL computer centre.

BL Systems has also intro- development of group office equipment as possible is technology of the functions is to duced a novel viewdata service, automation. Though the com- nically compatible. There are carried on British Telecom cir- pleted plan will lay down broad now nearly 3,000 terminals of cuits, which helps its dealers to priorities. John Leighfield em- various types in service in the locate stocks. By following phasises that a pragmatic, step- group, including word proces-BI. recently started an elec- simple instructions displayed on by-step approach will be adopted sors, viewdata sets and electronic mail service on the net- a television screen, dealers can to put it into effect. use the service to search a com-

that dealers have had to do to locate a model with the particu-lar specifications requested by a which it is practical to apply lar specifications requested by a

The licence for BL's micro- work. Its turnover last year was to be able to meet the full wave network limits its use to £28m, nearly all of its derived range of office automation the group's internal communigroup's internal communi- from within BL. But it wants needs. cations. Though this may be gradually to widen its range Systems will pursue an eclectic changed as a result of the of clients and to increase the policy, assembling devices and proportion of its revenues the telecommunications market, earned from outside to about 15 range of manufacturers as its it means that at present it can per cent of the total.

assignments has been in helping BL it is clearly important to

This is assential, he believes, to type messages on desk-top puterised list of every BL both because much remains to ber is expected to grow to more terminals and send them to a vehicle in stock in Britain.

be learned about issues like than 10,000 over the next five No more than a minute is psychological responses to office

now called information tech-retrieved by the intended tion of a given vehicle, compared difficulty of predicting the speed pology began before that term recipients. with the hours of telephoning of technological advance. rigid approach built

> today could rapidly become offer it commercially as a BL Systems functions as a obsolescent.
> "Value-added service" on the self-contained business, billing Leighfield is not impressed by British Telecom public network. other parts of the group for equipment suppliers who claim

systems supplied by a wide For an organisation as big as to draw up a strategy for the ensure that as much of its

tronic mail stations as well as computer terminals. The numhe learned about issues like than 10,000 over the next five

BL Systems has helped to procurement procedure. When a major purchase is contemplated it identifies the specifications is set up to evaluate the equip-ment available and negotiate with the manufacturers.

Once a machine is selected in is nominated as the standard by different parts of the group. The procurement policy is not legally binding," says Leighfield. "But it has quite a lot of force benind it."

The thoroughness of the procedure means that it is not practical to re-evaluate different categories of equipment more than once every 18 months, which may mean that BL cannot always keep up with every new product introduced to a fastchanging market.

But Leighfield believes that in practice this is a small price to pay. "We think that some penalty is worth while for

Unilever: taking a lead

ABOUT 15 years ago a group of office automation experts at Unilever were examining ways of increasing typing efficiency when it occurred to them that when it occurred to them that totype before deciding whether the primitive and cambersome to put it into production, UIMC electronic typing systems then placed a machine in a confer-available could be made much ence room and invited secremore versatile and convenient if tarles and typists to try it out.
they were fitted with a screen — "In less than three months we to display text and spell out found that we couldn't keep

office equipment manufacturers as a wine-tasting turned into an Unilever approached orgy. thought the idea worth exploring further. So the Anglo-Dutch group decided to go it alone. The outcome was Unicom, claimed to be the world's first display word-processor.

Many equipment manufac-turers have since followed followed Unilever's lead. A steadily growing range of display word-processors is now on the market and advances in technology and competition have brought prices down sharply. But Unicom has stood the test of time well and is still widely in use throughout the group.

The development of Unicom was supervised by Unilever International Management Consultants and the success of the system owes much to UIMC's adherence to what has become one of its cardinal rules for

office automation. This is that equipment must be designed to suit the people programming techniques yet who use it every day not the could handle quite advanced

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and 1.5MB disc drives.

carried out the technical development work. To test reactions to the pro-

operating instructions.

No such machine was on sale at the time and none of the six

people away from it," says Mr

Tom Elliott managing director of UIMC. "What was intended

mercial enterprise, accepting from outside well as serving assignments Unilever. It has no power to impose its views on the highly decentralised group, which helps to explain its sensitivity to the attitudes of users. It must rely chiefly on reasoned persuasion, not coercion, to encourage office automation.

Another example of its approach is to be found in a personal computer system which it developed recently. Research by UIMC experts convinced them that many office staff fought shy of computers because they doubted whether they could ever master the complex

instructions for operating them. UIMC's response was to design powerful small computer which required no knowledge of data-processing jargon or techniques yet

engineers and technicians who tasks like financial planning. Taking an Olivetti machine, they added special programming which makes it almost as easy to use as an electronic calcula-

> Although the machines cost £12,000 each, UIMC claims that they can pay for themselves in enhanced efficiency within a

> UIMC's experts insist, though, that getting people to use formula for successful office automation. Much depends on how they are used and achieving significant improvements in productivity is affected critically by the way offices are organised.

> Productivity can obviously be measured both by the numbers of staff employed and by their output. Unilever is coy about giving detailed statistics of its own operations, though the reorganisation of its London headquarters staff a few years ago tends to confirm UIMC's pre-

Before introducing wordprocessing equipment typing staff were regrouped into pools and their numbers reduced by natural wastage. As a result, the ratio of typists to staff originating material for typing was raised to 1:20 from 1:6.6. Then, when word-processors had been introduced, the number of typists was further reduced

rom 100 to 40. Measured by output, produc-tivity gains from word-processing vary considerably according to the type of work being done. Bigger benefits are attained in the preparation of large numbers of identical documents, like reports, than in composing individual letters.

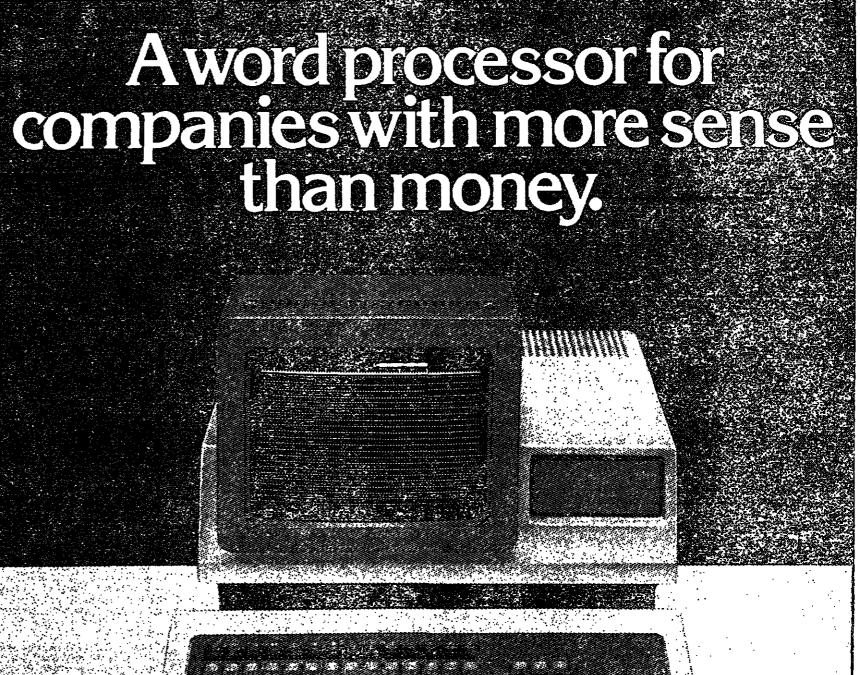
Unilever reckons that by cutting the time spent correcting errors and inserting amendments, word-processing has raised its typists' output by 250 per cent. But, as Mr Tony Blench, a UIMC consultant, points out, productivity improvements among secretaries with a varied range of duties are likely to be much less spectacular because typing may occupy no more than 20 per cent of their

Research shows that as much as 30 per cent of a secretary's time may be spent in waiting for work. More efficient organisation and supervision to ensure a balanced work flow is therefore likely to produce greater benefits than the introduction of word-processing,

Unilever's interest in improving the handling and distribution of information goes beyond the office. Roughly two-thirds of its 350,000 employees working in more than 70 countries are engaged in manufacturing, so factory work ranks high in UIMC's priorities.

"We talk about creating the business of the future, not the office of the future." says Mr David Logan of UIMC.

UIMC aims to reduce as far as possible the amount of manual clerical work done to produce production schedules, keep check of inventories and so on in its factories. In its Port Sunlight plant, for instance fork-lift truck drivers now consult a computerised system to learn where goods should be stacked instead of waiting for written instructions from



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OFFICE EQUIPMENT XIV

Although the U.S. continues to lead the way in the information technology revolution, other countries are intensifying their efforts to win further shares in the office equipment market. Here, and on the following page, Financial Times writers examine recent developments in Britain, Japan, France and Germany

Whitehall installation aims to set pace for nation

IN A few months' time the contrast to the broad product amounce a formal system for sedately elegant precincts of lines offered by U.S. multi-computer networking to the product amounted and amounted in the setting for one Business Machines and Xerox Britain's best hopes for computer the product of the setting for one Business Machines and Xerox Britain's best hopes for computer the product of the setting for one Business Machines and Xerox Britain's best hopes for computer the product of the setting for computer and the setting for the product of the prod of Britain's most advanced experiments in office auto-

Cabinet Office staff are to be supplied with communicating desk-top terminals on which they will be able to draft and edit documents, send and receive messages and peruse files of computerised informa-

The experiment is one of a series of showcase projects which the Government is sponsoring as part of a programme intended to push Britain into the informationt echnology age. The Industry Department plans to spend almost £100m over the next four years to promote greater awareness of information technology and to support the development of commer-cially promising new products and systems. The growth of information

technology, which comprises computers, communications and business machines, offers glittering opportunities. The world market is already estimated to be worth more than £50bn, and a recent report by Pactel, commissioned by the National Enterprise Board (now the British Technology Group). forecasts that it will almost double in value to £105bn by

Britain has been slower than manyo ther industrialised countries, particularly the U.S. and Japan, to wake upt o the implications of this boom, however. A survey carried out by Industrial Market Research found that only 3 per cent of business and government establishments owned wordprocessors, 9 per cent had computers and 2 per cent facsimile machines.

Moreover, British suppliers have been slow to attack even this limited home market. Pactel estimates that UK-owned companies account for only half of the national information technology market. It predicts that, on present trends, their share will slip to 35 per cent by 1990 and that Britain's trade deficit will widen to £1bn from about £300m last year.

tion technology market will be Its Content Addressable File those companies with a record Store, which speeds up the of high profitability, aggressive retrieval of computerised data, international spread activities focused on clearly- mainframe computer, are both defined product sectors. ingening it concludes that only one ducts. British company, Recal, comes

and the success achieved by smaller American companies in particular sectors, such as Wang in word-processing and Digital Equipment in minicomputers. and Britain is the comp Moreover, Japanese companies are expected to provide tions hub for many U.S. miniti-nationals operating in Europe. increasingly stiff competition in information technology in the

next few years.
ICL, Britain's computer company, has clearly recognised the need to compete more aggressively in these markets. After being on the edge of financial catastrophe earlier this year, it is now seeking to broaden and modernise its product range. Its new managing director, Mr Robb

Wilmot, has identified office automation as a major target for future strategy.

> BRITAIN GUY DE JONQUIERES

sources are limited, but it has a valuable asset in its extensive international marketing network. Mr Wilmot is seeking to start collaborative venture with companies which have developed technologically interesting products but need new outlets for them on the world

ICL has already concluded one deal with Three Rivers, a small American company, and will manufacture and market in much of the world its Perq microcomputer. The British company has also been having talks with a number of other manufacturers in the U.S., Europe and Japan and is believed to be close to an agreement with Fujitsu, the large Japanese electronics concern, on

bigger computers. The history of ICL is itself symptomatic of some of the weaknesses which have afflicted Britain's electronic high-tech-nology industries more generally. It does not lack talented Pactel believes that the engineers and has an able winners in the future informa- research and development team. and an and Distr Árray of which boosts the power of a ingenious and innovative pro-

But the company has not close to satisfying these criteria. always moved quickly enough to Racal's strengths, however, are turn its technology into comchiefly in data and defence mercially successful products. It communications. continued to devote a large Pactel observes that Britain share of its resources to big has no world-class suppliers of computers after it had become office automation, including clear that much of the industry's small business systems, copiers, future growth would be from facsimile machines or a com- sales of small machines; and it plete range of word processors. was one of the last big manu-These deficiencies are in facturers in the field to

Britain's best hopes for com-peting internationally in infor-mation technology lies in telecommunications. Its national telecommunications network is the third largest in the world,

Britain is acknowledged to be mong the world leaders in the development of fibre optics, which enable speech and data to be transmitted at high speed along hair-thin strands in the

form of pulses of light.

Its System X electronic exchange is technically well-regarded—though prospects for sizeable export sales remain uncertain—and Britain also has advanced skills in the design and manufacture of satellite mmunications system

But British strengths in some these areas owe more to initiatives by the public sector than to private enterprise. Much of the pioneering work in optical fibres has been undertaken by British Telecom, which has also carried most of the develop-ment cost of System X.

was responsible for the development of the advanced small PABX, the Monarch, now being manufactured for it by the General Electric Company and

One of the Government's aims in opening telecommunications to competition is to stimulate greater private-sector initiative. It hopes that ending of British Telecom's monopoly will lead to the production of a wider variety of technologically advanced equipment and to a flourishing market for new types of network services such as electronic mailing

The speed at which the liberalisation is implemented will be largely determined by the Industry Department. It will undoubtedly seek to avoid sizeable influx of imported

equipment at the expense. UK manufacturers and will as keep a close eye on the Emperi of freer competition of the finances of British Telec whose borrowing powers con-tions to be restricted by the

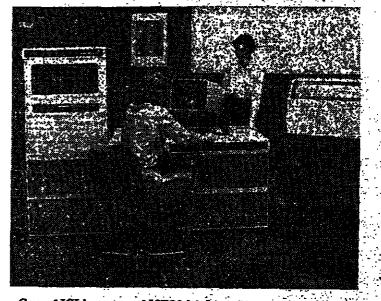
Nonetheless, thet prospect of freer competition has already aroused private-sector interest The biggest project announced so far is for an independent business communications het work. It is being developed by a consortium composed of Cable and Wireless — in which the Government is offering a 50 per cent stake to private invetors - British Petroleum and Barclays Merchant Bank Belancing the Industry De

step up public support for file application and development of electronic technology. It this Technology-Year and is budget ing about £80m for programmes to enhance general awareness information techni through seminars and exider-tions and to fund specific pro-

The Department also plans to spend up to £3m on a series of demonstration projects, of which the Downing Street office automation experiment is one Much of the money seems likely to go to smaller British companies with bright ideas, though some finnling is also going towards a system supplied to Cambridgeshire County Council

The underlying philosophy behind the Department's actions seems to be that by publicising information technology and scattering seed money it will encourage a positive response

from the private sector. Whether that response will be energetic enough to make good Britain's slowness in the international race towards the information age remains to be



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Manufacturers moving into battle

in recent years, has now turned division for strategic planning, its attention to office automa- systems engineering and sales tion after lagging three to five assistance to its other manu-years behind the U.S. in this field.

Systems engineering and sales assistance to its other manu-facturing divisions making com-puters, coniers and other emir-

Now Japanese manufacturers are preparing to battle for the market in new office equipment, which is expected to reach Y3,676,500m (\$16.7bn) in 1985 and Y5,389,600m (\$24.5bn) in

Mr Akio Tamura, manager of the office automation systems divisions at Hitachi, believes that the annual growth in office automation will be 20 to 25 per cent in the next few years. Other experts are not quite so optimistic and predict annual growth at around 15 per cent over the next five years. Hitachi is one of the leading electronics companies that have set up a new division just to handle the strategic planning

for marketing office machines. The division was established in August last year to coordinate systems engineering, while a new information systems sales division will coordinate the work of the divisions manufacturing small office computers, facsimile machines, word-processors and

communications equipment the Matsushita group has built a new National OA centre in the heart of the Tokyo business district, where small business computers, optical-character readers (OCR), word-measures fassimile machine processors, facsimile machines, electronic cash registers (ECR), and point of sale (POS)

machines are demonstrated.

Nippom Electric has established its C and G Office System to improve the efficiency of office work. Nippon has not set up a new division but has a system planning office which coordinates the activities of the business systems division and distinguish between small busi-

JAPAN, so devoted to pro-moting industrial productivity Toshiba has set up an OA

All these companies are using their thousands of retail outlets

for selling office equipment. Some, like Matsushita, Toshiba and Mitsubishi, are opening showrooms in major citles. Other large companies en-

gaged in the battle include Mitsubishi and Fujitsu, which make computers.
Companies like Sharp and Sanyo, better-known in the home electronics and television field, are also establishing OA outlets. Copier specialists like Ricoh and Canon are also in the battle. Along with their copying machines they have added facsimiles, word-proces-

Word-processors have led the way in the U.S. and Europe for office automation. But in Japan the development of word-processors was delayed by the intricacies of the Japanese written language, which uses thousands of characters mainly

sors and even micro-processors to their range of products.

of Chinese origin.
Toshiba marketed the first
word-processor capable of handling Japanese characters in September 1978. It was followed by Sharp, Nippon, Fujitsu and Okl.

Sales of word processors in Japan began in earnest late last year. Shipments totalled about 2,000 units and the estimate for the current fiscal year (to March 1982) is estimated at 3.000 units. The Japan Business Machine Makers' Association predicts that sales of word-processors will reach Y500n (2002).

ness computers and "personal" Y228.8bn (\$1bn), which reprecomputers, but it is generally sented 66 per cent of the total accepted that any computer output. that sells for less than Y3m (\$14,000) is a "personal" com-

puter. There are no 1980 figures for small office computers but ship-ments in the fiscal year 1979

> JAPAN `-- JOHN FUJH

totalled 20,828 units valued at Y146bn (\$663m). Sales growth last year is estimated to have been about 30 per cent.
There are 26 Japanese manufacturers and importers making

or selling personal and small business computers. The remarkable growth ofthe facsimile machine market in Japan has followed the opening of telephone lines for general facsimile use in 1972

Use of facsimile communications has been widespread because it permits the transmission of original manuscripts

mission of original manuscripts in Japanese characters.

Ministry of InternationalTrade (MFII) statistics show that the production of facsimiles last year totalised 100,375 units valued at Y81hn (\$386m).

Facsimile exports last year were Y15bn (\$68m). The relatively small volume of exports is attributed to heavy domestic demand.

demand.

Maisushita Graphics Communication Systems is the leading facsimile manufacturer in Japan, followed by Ricoh, Nippon and Toshiba. Hitachi, Sanyo and Canon are also among the 20 "fax" manufacturers.

But the biggest segment of

Machine Makers' Association predicts that sales of word the office equipment market in processors will reach Y50bn Japan is represented by copiers ing the potential per (\$227m) in 1985 and Y150bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processors will reach Y50bn Japanese production last year office automation to see the processor will reach Y50bn Japanese production last year office automation to see the processor will reach Y50bn Japanese production last year office automation to see the processor will reach Y50bn Japanese production last year office automation to see the processor will reach Y50bn Japanese production last year office automation to see the processor will reach Y50bn Japanese production last year office automation to see the processor will reach Y50bn Japanese production last year office automation to see the processor will reach y year office automation to see the processor will reach year office automation to see the processor will reach year office automation to see the year of year of year office automation to see the year office au

Japanese companies have the lead in the world ppc (plain paper copier) market previously dominated by Keron, in 1979 the Japan Business Machine Makers Association claimed that Japan's share of the world ppc market was 79 per cent.

While Japan has been dominant in the low-end copier market (fewer than 30 copies per minute), the latest trade reports indicate that Japanese manufacturers are now entering the high-speed marker (60 copies per minute) which had been considered atmost exclusively the preserve of Xerne

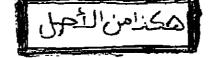
Other important developments in office automation are voice recognition and the expansion of inter-office communications. Nippor Electric has devised a decision room equipped with individual TV display units, an overhead screen projection camera's and telephones. Press, can be supplied to meet the particular requirements of users, ears requirements of users, say

requirements of users, says Nippon.

Nippon Electric buys the furniture needed for its f decision room," but furniture companies such as Okamura are responding by offering office equipment fitted with the latest OA machines.

Although latinstrial automation is extremely advanced by

Although industrial automation is extremely advanted Japan the completity of it Japanese language and relatively inexpensive femalabour for office work has be a brake on office automation. However, Tokyo, savenage and magazines are now publicing the potential femalis, office automation to such a cate of that "OA" is said.



end on the foll



One of Honeyvell's DPS-6 range of small computers, the 6/32, which is equipped with a 26-megabyte cartridge module disk

More active role sought in the market

THE FRENCH office equipment tions by the beginning of the 40 per cent after 1984. industry looks set to be a major next decade. CIT is itself hopeful of a beneficiary of the new Government's economic strategy. Under the Mitterrand plan, attempts to reflate the economy should help accelerate an already firmly established programme aimed at upgrading the technology and widening the markets of the French office electronics

Like all major Western European countries, France is keen to play a more active role in the rapidly expanding world market for sophisticated electronic office equipment. Its industrial policy makers are determined to build up an effective manufacturing base from which to strike back at foreign competition. French industry controls barely a tenth of the domestic market for office electronics which, says the Industry Ministry, is far too

The thrust for change is coming on a number of different levels. One priority is the modernisation of the state-owned telephone system. Another is the way the state continues to mould a number of private sector companies into major international groupings. Their impending nationalisation should accelerate this process.

Until recently, the French telecommunications body, the

DFFICE.

industry in West Germany is in

quiet ferment. For the moment,

a number of management cards are being played close to the chest, but few people would deny that certain key structural

changes are taking place. Large blocks of shares have changed

The shift in industry make up.

perceptible for some time, has gathered pace this year. There

are many inter-related reasons

for the movement, but the two central causes are rapid techno-

logical advance and the need to

equipment

By then. France should have more digital exchange lines in service than any other country in Europe, providing a system capable of carrying computerised data as well as conventional voice communication. Updating on this scale is creating work for the switchgar ing work for the switchgear

FRANCE

JEFFREY BROWN

ing to build CIT-Alcatel into a major force within the French office equipment industry.

The company, which is 70 per cent owned by CGE, France's major electrical group, recently launched its long awaited bid for a toe-hold in the fast expanding North American telecommunications markets. It is to pay \$14.45m for a 25 per cent shareholding in Lynch Com-munication Systems, a publicly listed U.S. company which last year slipped into the red.

The deal will give Lynch, which recently abandoned plans to develop its own digital equip-ment, access to improved tech-nology since CIT has adapted its E10 electronic switching gear to

recovery this year having seen earnings slide by more than half to FFr 66m in 1980. Among other factors it blamed develorment and modernisation costs, but said that sales for 1981 were expected to grow by 20 per cent and was confident of an upturn

The impending nationalisation of CIT's parent company appears in no way to obstruct a successful conclusion of the deal with Lynch. In contrast, French Government policies recently forced Thomson-CSF, the computers arm of the Thomson-Brandt the leading electronics and electrical consumer goods group in France, to abandon plans to set up a major telecommunications venture in

Earlier this year, CSF was all set to link-up with Continental Telephone of the U.S. in a major distribution venture which would have given the French group an important stake in the North American market for sophisticated business information systems. Co-operation between the two companies was also to have led to the formation of joint research and manufacturing facilities.

The deal was widely seen as equipment and its progress over the demands of the U.S. market. The failure of the past five years in keying For its part, CFT plugs in to a down new subscriber lines has ready-made distribution netbeen impressive. Capital spend-work Lynch returned to modest ing is currently running very profits for the early quarters of high and the PTT plans to 1981, and CTT because its drive to become a major force in world computer markets. The failure of the deal to survive France's nationalisation plans is seen as a major blow to the company. CSF already has a number of high and the PTT plans to 1981, and CTT because its drive to become a major force in world computer markets. The failure of the deal to survive France's nationalisation plans is seen as a major blow to the company computer markets. The failure of the deal to survive France's nationalisation plans is seen as a major blow to the company computer markets. The failure of the deal to survive France's nationalisation plans is seen as a major blow to the company computer markets. The failure of the deal to survive France's nationalisation plans is seen as a major blow to the company computer markets. The failure of the deal to survive France's nationalisation plans is seen as a major blow to the company computer markets. The failure of the deal to survive France's nationalisation plans is seen as a major blow to the company. a breakthrough for CSF and an

Lucrative Government defence French mini-computer comcontracts may have fostered pany, Logabax.

CSF's progress in recent years, but at least the company has been mostly self-financing. Cii-Honeywell Bull has long been heavy drain on state funds, and has recently been forced to ask for fresh aid.

The company is now part of the Saint Gobain industrial group which moved into Cii in 1980 and is now busily expanding Cii's office equipment opera-

Saint Gobain acquired a 57 per cent controlling sharehold-ing in Cii last year, and has quickly moved to consolidate its interest in the computer and data processing industry. It has forged financial links with Olivetti of Italy and has taken part-together with Olivettiin the rescue of the leading Japanese bardware in Europe

It remains to be seen just how successful Saint Gobain

will be in threading its various interests into a coherent strategy. But it clearly has the tacit approval of the French Government to get things moving. It also remains unclear how Honeywell of the U.S., which owns the outstanding 47 per cent of Cii, will react to having a more activist partner.

Honeywell relies on Cii for its operations in every European country, except Britain and Italy. In theory, it should welcome any moves to bolster Cii's flagging finances: Cii's first half 1981 losses deepened. But a number of potential con-flicts of interest could also be looming. Olivetti recently concluded a deal to market

One of the faster growing high technology companies in France in recent years has been Matra whose large defence interests are to be taken over under the state nationalisation plans, Maira's main thrust at present is electronics. The company has a key role in the Government's strategy for the French components industry, and to this end has re cently agreed important links with the U.S. computer group,

This summer, Motra signed an outline agreement that looks likely to increase its commitment to mini-computers. It is to make small business machines for the U.S. company Tandy, which claims to be the biggest retailer of consumer

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into larger computers and communications systems for computer networks. All of this But the pressures from foreign is a major exporter, shipping makes its planned stock market

fend off foreign competition. Against this trading background, there is a compelling need among some manufacturers to find additional sources of finance: Other companies see the chance to expand.

Weighed down with debt inherited from past trading mis-takes, AEG-Telefunken has continued to dispose of large chunks of its business, notably a con-trolling (83 per ceut) interest in Hartman and Braun, the con the side at a time when the trol and measuring equipment group balance-sheet is being maker. This was purchased by severely stretched by the protrol and measuring equipment group palance-sneet is being maker. This was purchased by severely stretched by the pro-Mannessmann, the pipes and longed period of high interest engineering group which is rates. Losses at Olympia are rapidly diversifying into elections and which recently purposes and which recently purposes. The company chased a half share in the is seeking aid from the Govern-family-owned small business ment, and at the same time machines group, Kienzle.

machines group, Kienzle.

Along with the automotive components group, Robert Bosch, AEG and Mannesman are attempting to create a major new German telecommunica-tions and office equipment group. It is early days yet, but the three companies expect to make their plans known before the end of this year.

As bests the strongest economy within the EEC, the German market for sophisticated

cated electronic equipment is the biggest in Europe. After rapid growth in recent years, some product sectors show signs of pausing for breath in 1981, notably photo-copiers and typewriters. But the market as a whole, fuelled by confinued

The German manufacturers innovation, and have some sizecompetition are intense. Japan has half the German market in duction outside Germany.

domination make even more depressing reading for the men running the production lines at Olympia and Triumph-Adler.

Upheavals in the typewriter market are one of the more obvious areas of structural shift in Germany's office equipment hands, and at least one major new manufacturing grouping has begun to take shape. industry. The major makers have tended to be slow in adapting to the electronic age, and have lately had to scramble to switch output as demand for mechanical products has fallen

> GERMANY JEFFREY BROWN

Both Olympia and Triumph-Adler have been caught nap-

ping. For its parent company.
AEG, the problems at Olympia
have been an added thorn in

Triumph-Adler, which is part of the Volkswagen motor group, is heading for losses of around DM 10m this year and is also cutting back production and reducing its workforce. situation at Triumph-Adler, which apart from typewriters makes a wide range of computers, copiers and calculators, represents a major setback for its new owners. Purchased in 1979, Triumph-Adler was VW's first major diversification outside the motor industry.

The leading office equipment manufacturer in Germany, and the company with most pretensions to international standexpansion in small computers, is ing in the world of business expected to recover sharply machines, is Siemens which, as from next year onwards an electronics company, ranks as number two (after Philips) are strong on technology and in Europe and number five in the world. It has a very able shares in the home market successful earnings record, and something like two-fifths of pro-

Compared to its power rapidly approaching necessity.

Important changes now taking place writers the numbers on foreign engineering and telecommuniputer operations are relatively modest, accounting for little more than a tenth of group sales. But this side of Siemen is fast expanding. Development spending is high, topping 30 per cent of sales last year. It is still losing money in some areas, but the data-processing operations have been in the black for more than two years. Along with a number of European producers, Siemens has strong ties with Japan notably through an agreement to import central computer units from Fujitsu.

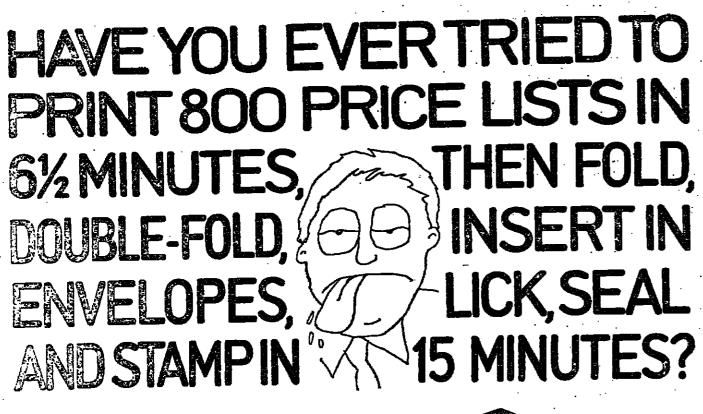
In return, Fujitsu plugs in
to Siemens' peripheral equipment, mostly laser printers,

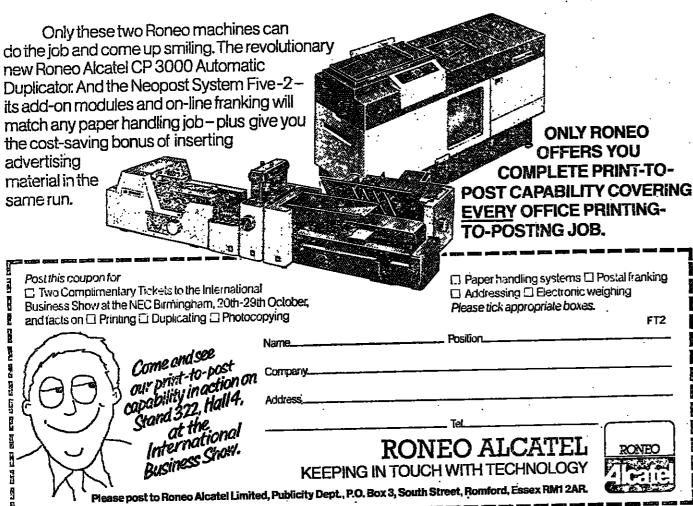
and the two companies have also agreed to exchange know-how in software systems. Siemens has a 10 per cent share holding in Fujitsu's parent company, Fuji Electric.

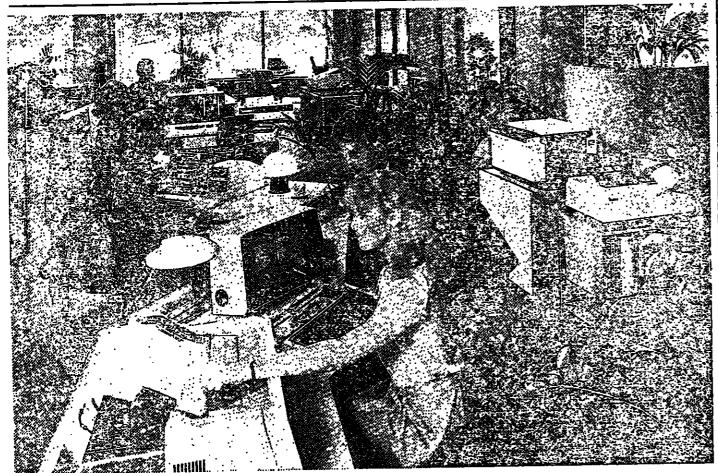
comparatively feature of the trend for German companies to tune into Japanese technology has been BASF's links with Hitachi allowing the Japanese group to market under the BASF label. BASF-one of the big three chemical groups in Germany-has excellent credentials in peripherals and media supplies, and it aims eventually to become a major computer systems supplier. It already has a toe-hold in the personal computer markets in Germany and North America.

In contrast, Nixdorf, the family controlled small computers group, is much more independently minded, although just how long it will continue to operate without access to major external finance is a constant guessing game in German computer circles. Sales last year continued to power ahead, but profits fell sharply, tumbling by more than half to DM 42.3m after tax, not helped by major credits to leasing reserves. Nixdorf is a rarity among

European computer manufacmarkets shares, it makes money and it is independent. Lately it has been spending heavily on new product development, designed to extend its range debut-sometime "within the next three years "-look a







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IBM's Displaywriter is a desk-top information process ing system having a spelling verification aid, using dictionary of 50,000 commonly-used words. Additionally up to 500 can be entered by the user for a particular profession or industry. Designed for ease-of-use, instructions appear on the screen in everyday English to guide the typist in creating, revising and editing documents. Recent enhancements include the ability to checkbasic mathematical calcul ations and files processing

Computer manufacturers face growing competition

IF. on top of the £20,000 or so you had to pay for a new Rolls-Royce car, you were billed a further £20,000 for the driver's manual, you would feel justifiably aggrieved.

Yet that is how it is with computer-based systems. The software, the lists of instructions which, when translated into electronic pulses, tell the computer what to do, now costs a significant proportion of the price of the computer itself. So it only makes sense to take care when choosing the most suitable software for office

applications. Choose? Ah, yes, you might find it strange to be offered a choice of driver's manuals with your Rolls: but for over a lecade now, independent suppliers of software have vied with computer manufacturers to provide the most cost-effective computer programs.

The advantage, in fact, lies with the independent software and systems bouses which are to spot gaps in the market and move quickly, leaving the major suppliers flat-footed.

What counts in the development of good software is an intimate understanding of the application. It helps if accountants are involved in the development and marketing of accountancy software, actuaries in the writing of actuarial software, and office methods specialists in the development of office software. two

opproaches. Software can be written to carry out a specific purpose, on a specific computer and for a specific company. This is besnoke software. It can be written "in-house" or "outof-house" and it should meet its design specification. But it will be expensive and could take longer to commission than planned. Then there are packages,

pieces of generalised software written for a particular application: they can be sold to many different customers who have to mould their businesses to suit the quirks of the package rather than the other way round.

bespoke jobs carried out for a of terminals to packet switched client by a software house which networks was incompatible with sees the commercial potential in SNA.

the application and makes appropriate financial arrangements with its customers.

They cost only a fraction of the price of a bespoke system, are available off the shelf and can be fitted to the customer's computer with the minimum of modification. They do require

tolerance on the part of the customer, however, because they will dictate the way he does his business rather than the other way round. For some customers this is enough to rule packages out of court; for most, the soaring costs of creating bespoke software make packages the only sensible solution.

In consequence, the market for packages is growing at anything between 25 and 50 per cent worldwide.

According to Mr Michael Naughton a director of Langton Information Systems, a UK consultancy which has made a special study of office software, there are six main areas of rapid change.

Teletex (not to be confused with Teletext, which is concerned with broadcast information services like Ceefax and Oracle) involves ways of linking word-processors together to transmit information. Many see teletex systems as the "elec-tronic glue" which will hold the office of the future together.

Langton is chief contractor in team including Logica and CSP in the UK. Danet in West Germany, and Teleplan in Sweden, which is examining the implications of teletex systems for the European Commission.
It is considering questions such as: Is teletex the right

medium for office information interchange? What international standards already exist and what advice should the Commission give the European PTTs to help the harmonisation In the office systems the data-

processing systems experience is being repeated. IBM is being repeated. IBM "foot-high piles of grotty com-developed its own networking puter print-out" as Mr Naugh-architecture called Systems Networking Architecture (SNA) for han the other way round. data processing. The CCITT Packages usually start as standard X.25 for the connection

CCITT recommendations for teletex were published in 1980, and they were incompatible with IBM's DCA/DLA document communication architecture/ document' interchange architec-

ture protocols. The software problems in teletex are detailed and complex. How, for example, should the system deal with an interrupta request for priority—while another activity is in progress?

SOFTWARE SUPPLIERS

Or, put more graphically, how INFORMATION Retrieval: should the system deal with an This is the key to successful urgent teletex message from a and efficient office automation manager to a member of staff while that employee is pain find and retrieve information fully composing a document on from an electronic filing cabinet the teletex screen?

• LOCAL AREA NETWORKS: These networks, known as LANs, are discussed in detail in another article in this survey, but it is worth mentioning that they are, essentially, pure soft-

With the expected shift from baseband systems such as Ethernet and the Cambridge Ring to broadband systems, a host of new software problems will be thrown up; but LANs still do not solve the problem of incompatibility between different manufacturers' equipment.

• COMPOSITION SOFTWARE: This is a comparatively illunderstood area, but one of basic importance in the elec-tronic office.

Most large organisations have large masses of information stored in the memories of their mainframe computers - infor-mation which can be made available only in the shape of foot-high piles of grotty com-

software Composition designed to take that informaand publish it in an acceptable form on such output media as videodisc, viewdata systems, microfiche or paper

through a laser printer such as the Xerox 9700 or the IBM 3800. ■ WORD PROCESSING: Facilispelling checkers and built-in calculators have now become standard; and software that should have been available two years ago—communications software, for example, enabling

Mr Naughton is distious about the quality of wordprocessing software sold to run on micro-computers (as opposed to specialised word-processors).
"It is all right for the small businessman - preparing his accounts once a week, but inadequate for the typist using the achine six hours a day," he

the technical ability to seek. safely and quickly.

sontware systems such IBM's Stairs, ICFs Assassing and Datapoint's Aim are aiready available. So are hardware such as ICL's Content Address-able File Store and Burroughs Offs 1 electronic file.

Offis 1 electronic file.

The problem here is human rather than technological. How does an office manager wish to file his information? In what forms does he want to be able

torms does he want to be ane to retrieve it?

One answer is the relational database, whereby information is stored in an apparently fun-dom manner in the database while slick software pulls it together into the kind of tables required by each user.

So for a database containing the information for a company relational software would make department to have one view o the data, the salaries dena ment another and the co doctor yet another alto different view—all indep

and all, in effect, "hermetically scaled" from each other. This is an area where office software specialists foresee the optimum return for their invest ment in time and ingentify in developing

VDGs into the office brings the need for special furniture and other equipment. Project's extensive rese

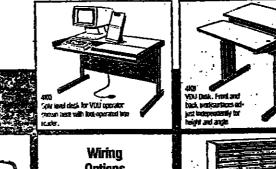
has produced the answers.

A wide variety of work

stations for different job func

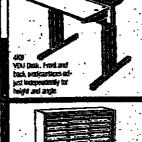
tions can be built up from their

Office computers~ Project provide the answers...



Options Project offer three

of tidying away wiring in the office. Write or phone for details of these wire managers



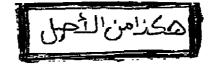


ittractive systems range of desks, tables, storage units screens and chairs.









Making sales in the High Street

logy that is so rapidly changing the office world in the 1980s has also brought about algorificant changes in the marketing of office equipment.

As the price of new effice products has faller—a result of the development in microprocessor technology—se the proportion allocated to marketing is obviously under pressure. Yet, at the same time, the market for office equipment has become even more competitive, and enmystics have that to pay greater, attention in marketing methods than before.

methods than before.

Mr Jim Wostel, a marketing manager with IBM, egrees that "the cost of marketing the product is mitical." Yet he points out that "in developing the most economical end cost to the user it with that our market. user, it is vital that our market-ing is still effective and does not detract from the high serrice standards we set ourselves.'

The traditional area of marketing most under threat is the salesman's direct selling technique. Office equipment companies are no different from other major manufacturers in finding that the cost of running a sales team — a salesman costs at least double his salary to operate — is becoming too high. Increasingly companies are concentrating on a few highly motivated and trate on the large accounts, using a network of dealers to meet the mass market.

Without doubt the major marketing development in the past few years has been the advent of retail outlets where interested business buyers can simply walk in from the High Street; IBM, Rank Xerox, and others are all busily expanding

Rank Xerox, which already has three stores open in Central London and one in Slough, estimates that there is a mass market waiting to be exploited with electronic office equip-ment. It says that there are over 500,000 companies in the UK employing fewer than 30 people who, in normal circumstances, would not be reached by the marketing methods of

Rank's market research suggests that electronic office equipment is also suitable for a range of professions not normally considered by office normally considered by office central London is operated by been virtual equipment companies. For BEAM a subsidiary of the UAC contemplate.

ple, the research revealed International Group which is it travel agents could all typical customers.

In many companies and small offices, the basic office equipment has not changed for decades, despite the tech-nological developments that have been made. Attitudes are only just beginning to change in the small to medium-sized business which still relies on shorthand for letters, slowly typed invoices, hand-written ledgers for cash flow and crude communication devices. A typical office worker will be supported

MARKETING

DAVID CHURCHILL

by only £2,000 -of equipment, while a counterpart in manufacturing industry will have the benefit of more than £10,000 worth of equipment per person. Rank Xerox says that it expects retail distribution out-lets "to be very cost effective." The company adds that the stores " reduce our overall costs for the distribution and production of our lower-priced products, and these economies benefit our customers as well " Rank sees range and con-

venience as the retail outlet's two main attractions—every-thing from calculators to computers are sold, and not only Rank's own products. Like other High Street shops, the Xerox special offers, and its products are available on through cash and carry or by delivery. Financing is available, and major credit cards are also

IBM has two retail centres operating in central London and a third is planned before the end of the year. Mr. John Radosky, IBM's retail development manager, says that "retail centres represent a national extension of our marketing effort and help provide customers with a convenient way to try out and buy the products and services we offer."

that doctors, dentists, lawyers, self part of Unilever. This retail estate agents, architects, and outlet is the tenth UK business centre operated by BEAM and

further centres are planned. Retail outlets still remain very much in their infancy in the UK however. A more traditional method of marketing office equipment is through exhibitions and the International Business Show at the National Exhibition Centre, Birmingham, next week will provide one of the most comprehensive displays of business equipment ever assembled in the UK. The show will have over 470 exhibitors occupying some 40.000 square metres of stand space.

Mr Lawrence Lewis, chairman of the advisory committee of the Business Equipment Trade Association, says that the exhibition " has been supported by a massive publicity campaign over the past year, comprising media, licity." He adds that the exhibition will be supported by local and national radio and television coverage.

Press and television advertising of office equipment has also increased considerably in recent years. The National Business Equipment Survey's "advertising expenditure analysis" shows that total 1980 advertising exhalf of this sum, which contributions emphasises the aggressive competition in this market.

Typewriter advertising also rose sharply towards the end of last year, according to the survey. This was due to heavy adelectronic vertising for typewriters at this time, especially by Olivetti and Olympia.

IBM has recently been run-

ning a series of regional television commercials and a direct mail campaign using the theme "IBM small computers can turn paperwork into information." The campaign is aimed at promoting the System business computer. A sign of the increasing

agressiveness of companies like IBM in the business equipment market was a recent offer of IBM's correcting Selectric 111 typewriter for a 30-day free trial without obligation to buy. Only Another business equipment a few years ago, such an coffee from a machine rather retail outlet recently opened in offer from IBM would have than tea, even though more tea been virtually impossible to



A second office products retail centre has been opened in London by IBM. The centre at Cheapside has 1,100 sq ft of sales and demonstration space

End of the line for the tea trolley

ONE OF the more useful items and coffee usually find that tea. It is estimated that an averof office equipment for improv- is preferred. ing productivity levels—the

the right place, offer the right beverages, whereby the inpenditure on business equipment reached £3m. Copier and other items, and subsidise advertising accounted for over the price, can make valuable and the machine merely places bench. to staff productivity.

For example, the growth of flexible working hours and contimious-shift working-especially in company intallationshas made it impossible to meet

from normal catering services The provision of increasingly advanced vending machines, inchiding those offering instant cost-effective way of ensuring that staff remain refreshed and ine unsocial hours.

companies to re-consider their agreed to provide a better. They are likely to be appre-conventional catering facilities flavoured beverage of more ciated by women employees, in while the tea person and her troller are increasingly giving way to vending machines. One indictment of vending

machines, however, is the fact third that most people prefer to drink drinks. than coffee is drung of home. proportion will rea Tea trolleys serving both tea cent of drink sales.

food or drink vending machine many consumers still regard the one in the morning and one

gredients are put into each cup not more than 30 yards from the cup and fills it with hot or cold water.

Cups for this system have ridges which maintain them in interlocking stacks for simple insertion into the machine.

VENDING EQUIPMENT

DAVID CHURCHILL

consistent quality. It is also particular, in places where local the fastest-growing part of the beverage vending market and now accounts for about onethird of all machine-vended

This reflects the fact that two hot or cold drinks a day, —is also one of the most flavour of hot drinks from in the afternoon, although it frequently overlooked.

They are usually taken for granted in offices—yet corament in the industry has been panies which site machines in the introduction of "in-cup" maximum productivity benefits, a machine should be situated

an employee's desk or work-While beverage machines are the most common type to be found in offices, some employers are turning to food vending machines to provide a more comprehensive food service to their staff. A recent innovation is the hot-meal machine, often installed with a micro-wave oven. Another is

hot food. Although many employees have for some time provided cigarette and confectionery machines, many others are now installing machines selling such things as magazines or tights. They are likely to be appreshopping facilities are limited.

the "ring-pull" can containing

Many operators predict that while the demand for food and drink vending machines will continue to increase-especially Market estimates suggest that when the recession is over-the within the next few years this greatest growth area in the proportion will reach 50 per late 1980s will be "automatic cent of drink sales."

within the next few years this greatest growth area in the proportion will reach 50 per late 1980s will be "automatic shopping" facilities.



Today's increasing range of food and drink vending equipment can make a valuable contribution to improvements in staff productivity. Above: Mercantile Catering Services Golden Service vending units installed at the British Airports Authority's cargo centre. On the left is Mr Robert White. managing director of MCS, with Mr Peter Hughes, BAA's premises manager

ttakes dictation, ty letters, makes copies, sits comfortably on your knee and goes everywhere with you?

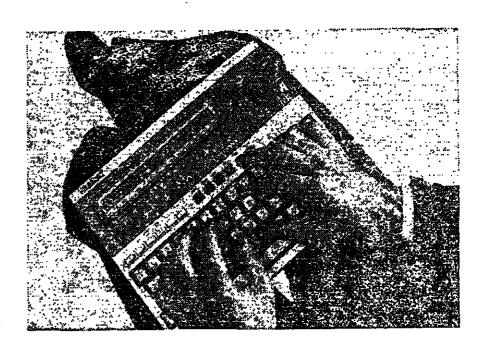
Apart from your secretary

The Sony Typecorder is much more than just a paperless typewriter. It could well be the greatest office invention since the typewriter itself.

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Increasing market potential for hand-held machines

ALTHOUGH Philips firmly remains the UK market leader in dictation equipment, is the way that Dictaphonewith its strong emphasis on the centralised systems sector—has moved to second place in the market league table, shead of Grundig.

The dictation equipment market is broadly divided into three main categories—the central dictation network systems, mainly used by larger companies; secondly, the tabletop machines; and thirdly, the hand-held (or pocket-size)

In the general marketplace, Grundig is steadily regaining lost ground—in 1972, the company commanded 48 per cent of the market—but this later dropped as low as 17 per cent. Today it has around 20 per cent, according to the National Business Equipment Survey.

Sales figure estimates by NEBS for desk-top machines, combining recording and transcription facilities, totalled 34,400 in 1980, while models for transcription only totalled

In the portable machine sector, sales were around 72,300 and the figure for centralised network systems was 680 last

Philips commands 62 per cent of the table-top machine sector, followed by Grundig with 19 per cent; Sony, with 4 per cent; Olympia, 4 per cent; and IBM, with 3 per cent.

Manufacturers report a growing demand for smaller, more compact machines in both the hand-held and

dictation remained static last year, it is likely to expand steadily by some 25 per cent by 1983. The company is encouraged by the reception for its recently-launched 812 dictation and transcription machines, which incorporates new, lightweight headphones and a redesigned foot-pedal system, giving the

DICTATION EQUIPMENT

MICHAEL WILTSHIRE

pist greater flexibility. The 812 also has an improved version of the visual mark-andfind facility which provides secretaries with an immediate visual reference to the contents of the cassette.

The company is launching the pocket memo machine at International Business Show. This model supercedes the 585 general-purpose note-taking machine. Philips also markets the 640 model which is claimed to be the world's immest dictation machine. using micro-miniature cassettes

The Philips 320 full-feature portable machine - which can function as well as a deskton model - has had a good measure of success, although the market for this type of machine has moved more slowly than some distributors anticipated.

Other brand names — including National Panasonic, Lanier, Sanyo and Binatone—account together for around 8 per cent market

potential for growth, according to NBES, is in the handheld machine sector — the convenience factor as well as falling prices in the face of growing popularity of these "electronic notebooks."

Philips again tops the market share table with 57 per cent, but is facing increasing competition from Japanese manu-facturers, Grundig commands a 16 per cent share, while Sony has 8 per cent and Dictaphone around 5 per cent Advertising expenditure analysis indicates how the pocket machine war is butting up, with Philips and Lemier in

Jackie Arthey of NBES. One product, the Olympus Pearlcorder, was the subject of an £80,000 campaign in the first quarter of this year in the national Press a period that is, traditionally, relatively quiet for such promotions in this sector.

particular, laimching strong

In the more profitable centralised systems market, Dictaphone leads with a 62 per cent share; followed by Assman, with 18 per cent; and Philips, 12 per cent. Although Dictaphone has a strong hold on this sector, Soney machines are moving steadily into the market another indication Japanese manufacturers are intent on winning a far stronger share of the dictation equipment market.

Although Dictaphone's main product-line is still desk-top units and portables, the company - which had a record year in 1980—has consolidated its position in the centralised systems market with equip ment such as the 293 standardexample, self apward about 15,000

tating—a turn-round time or letters of 30 minutes is not unusual

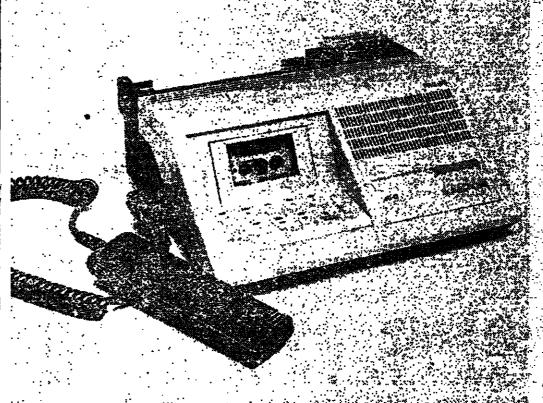
Britain's bigges dictation system of 28 unit was recently installed by Dictaphone at Durham County Council.

Rapid, easy-to-use electronic indexing systems, now being introduced by various main-facturers, are proving popular with machine users. These indexing facilities not only indicate the amount of work on each tape, but also mark the end of each letter and provide special instructions for the typist, prior to transcription.

Another significant aspect of today's - raider - iragini market is that users are demanding condounty of supply and more back-up services and it is in these areas that companies such as Philips and Grundie are particularly strong, according to Mr Christopher Adams of the long established Dictating Machine Genere in London.

THE latest addition to

the range of desk-top dictation machines from Philips Business Equipment is the system 800 (left) which incorporates advanced features resulting from the company's research programme. System 800 is fully comwith other dictation products using the Minicassette 2, with the mark-and-find facility. The 812 is a dual-purpose unit, for dictation or transcription, according to the accessories chosen. The hand microphone allows the dictator complete control of the unit, the system includes lightweight, adjustable head phones. A microprocessor carries out 160 performance checks per second on all the 812's functions, ensuring greater reliability.



Demand for more flexibility in office locations

office building and design in the with computer facilities often rempact of new technology which other major cities. is so rapidly changing the face But it is already feasible to re-of office equipment in general. locate other functions, such as The impact of the micropro- the accounts department, which cessor can clearly be seen, for can easily be linked by example, in the out-moded sophisticated telecommunication need for large computer halls systems. which were the vogue in the 960s and early 70s. ing director of the Space Plan-Office planners at that time ning Services design consul-1960s and early 70s

could not foresee the rapid tancy, believes that the impact miniaturisation of computer of new technology will help technology, which has left small bring about the demise of the mini-computers and terminals— large corporate headquarters with the same computing power occupied by a single tenant, as the early generation of com"Many buildings will be occuputers—virtually stranded in pied by multiple tenants—small offices that are too love.

and more subtle ways. The increased use of visual display manufacturing, and perhaps all units, for example, has meant being served by a data network that lighting systems have to be or data ring main." specially adjusted to cope with the different levels of light emitted. The need for more power sources, moreover, for modern word processing systems has also created the need to blend heavy duty cables into the office environment,

nience features, such as audible warning

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machines, therefore, makes it equally important that the acoustic systems are compensated to account for the relative increase in noise from other by decisions taken many years

place. Such dispersal has already taken place to a limited

THE BIGGEST influence on extent over the past decades, the desire of architects and tenancies an acceptable com 1980s will undoubtedly be the located outside London and

> But it is already feasible to re-Mr Roger Henderson, manag-

offices that are too large.

But the impact of technology groups of professional and technis being felt in numerous other nical staff, many related to service industries rather than

or data ring main."
Yet Mr Henderson does not believe the argument that in a know it today will be a thing of the past.

"Whatever happens," he says,
"there will still be a genuine
need for face-to-face communi-Noise levels can also change, cation and human contact. In for instance, by the introduction ten years we shall not all be of word processors which can be quieter than ordinary electric electronic gadgetry of which so typewriters. Less noise from much is written and spoken, but. actual office tasks will be performed in vastly different ways."
Yet in some ways the office of

ago when many offices in use New technology will also have today were built. In the 1960s, the effect of changing the way for example, the speculative in which offices are used. The development of new communica- spate of offices which were tion systems, for example, will solely aimed at maximising make it less essential to have rentals per square foot rather large groups of office workers in than being built to maximise

office efficiency. Such offices, combined with

office planners of forcing the open-plan office landscapes upon unfortunate office workers, has probably done more harm to office productivity over the past two decades than any other factor. Offices without walls have been shown by several studies not to be the panacea they were once thought to be. Nowadays, the design trend is to create individual work-stations, to provide privacy where needed, but

COMMERCIAL BUILDINGS

DAYID CHURCHILL

also to create space for group activities. Modern methods of activities. Modern methods of working often require project teams to be set up and disbanded to meet fluctuating work-loads. This requires an environment with a high level of flexibility, a quality which many of the speculatively designed offices of the 1960s do not possess.

Space Planning Services and

Space Planning Services and other design consultancies are particularly conscious of the need for flexibility in refurbishing existing offices and planning new ones. "Flexibility means allowing for spaces large enough for alternative uses, shallow suspended floors for services cabling and being able to vices cabling, and being able to paid to energy conservation change the physical environ-ment—lighting, heating, cooling, ventilation and so on—at the will of the occupant," points out

mercial proposition."

Apart from new technology. the other major influence on office buildings and design over the past decade has been the impact of rising energy costs In the 50s, 60s, and early 70s the relative cheapness of energy led architects and developers it build buildings with all glass walls and poorly insulated roofs which were high users of energy.

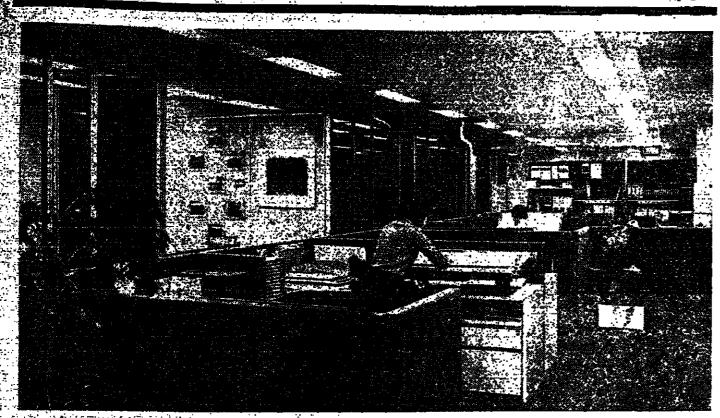
A new computerised method of assessing fuel consumption in buildings being designed has recently been put forward by file Royal Institute of British Architects. The system was designed by the institute's energy group in conjunction with the gas, oil, coal, and electricity industries. The Chartered Institute of Participal Chartered Institution of Building Services and the Departments of Energy and Environment were also involved.

and Environment were also involved.

With the aid of a programmable calculator and the RIBA data, an architect will be able quickly and easily to assess the energy consoquences of possible designs. RIBA point out that an estimated 56 per cent of all energy consumed in Britain was for heating, lighting air-conditioning, and servicing outlidings and totalled about ing buildings and totalled shoul.
£14bn a year. Assuming 30 per cenf savings by better onergy design and management, the savings could be about £5m.

year. Xet the increased attention measures in buildings in recent years mask the fact that the most important cost in any office will or the occupant," points out are the people who work in it.

"It also means creating offices which are capable of being selfcontained and, with electronic offices become the first priestly security systems, make multiple security systems, make multiple, of the planners,



Grey Advertising in London has just moved to new offices in Gt. Portland Street with help from Space Planning Services, the consultancy which was responsible for interior planning and design. Modular furniture in the open areas allows for the space to be used economically and provides each person with storage space and reference material close to hand. Low desk height screens in the creative department are used to make work station areas and also to allow for a high level of inter-communication between personnel

Recession layoffs distort view of job levels

IN A CITY of London street, an ultra-modernised shopfront boasts a display of U.S.-made computerised office equipment, the placards surrounding it proclaiming that the manufacturer has developed a complete information system which is at once flexible and reasonably priced—

On the floor above the shopfront in the late. Victorian building, office workers can be dimly glimpsed through the dingy windows seated at 1950s desks, hammering on 1960s typewriters surrounded by piles of 1970s paper. The office of the future is emerging very slowly from the womb of the office of

While unions in the white collar sector throughout Western Europe have developed more or less coherent stratègies for dealing with job restructuring in living through a period of hiatus between the massive propaganda blitz of two or three years ago, heralding the arrival of the office of the future, and its much-delayed appearance on

the stage of the real world. Where early beachheads of automated bureaucracy have they have not proved to be the destroyers of jobs which many feared. Word processors have been adopted by a large number of companies and institutions without, yet

causing large-scale job losses. The word "apparent" used here advisedly — large-scale layoff in most sectors because of the effects of recession have meant that where employers have introduced labour-saving equipment at the same time as making recessioninduced redundancies, the effects of that equipment's introduction have been masked.

In successive debates on new technology at the TUC, and in other-union conferences over the past four years, union officials have made the point with increasing vehemence. New technology — the common be-lief among unions how—is being introduced under thecloak of a slump.

The increased power given to employers by the high levels of unemployment throughout the West has not only meant that automated equipment can be introduced with few disputes. but that the consultation pro-- on which unions placed much stress when it became clear, in the late 1970s. that an exceptionally concentrated period of re-equipping was taking place—have often been dispensed with, ignored or never instituted.

Many union officials believe they can do little to interest their members in pressing for consultation at a time when levels of militancy are low and

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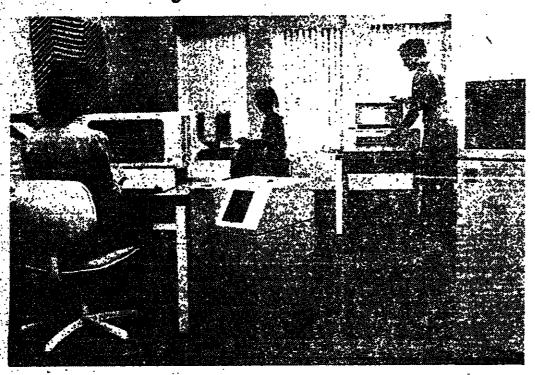
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Word processors have been adopted by a number of larger companies and institutions without causing large-scale job losses. Aborc: IBM's 5520 administrative system which combines advances text processing, files processing and electronic document distribution

when redundancies for thethey generally fell well short part, are accepted of the ambitious guidelines laid fatalistically.

However, the picture is not simply one of union collapse before employer strength, or of nology agreements. large scale introduction of automated equipment without regard to employees' views though mions will often so represent matters. The reality is as usual complex, but a few

main strands may be noted. • First, the white collar area has been the major one for the conclusion of new technology agreements-a largely British phenomenon, though not exclusively—which regulate the introduction of new office sys-tems and lay down guidelines on how they are to be operated. The "boom years" for these agreements were 1979-80: there is now some evidence of

a falling off. They were most detailed in the health and safety aspects, at least in part because legislation exists on health and safety in the UK which could be used as a reference, and because the technical specifications of, for example, flicker on visual display units' screens could be precisely quantified.

Beyond that, exceptionally useful, but limited, area, the agreements brought modest gains to the unions. Many specified the redundancies would be made by voluntary means, that training should be given to employees, that (in a few cases) consultation should continue on the functioning of the new equipment. However,

down, in the 1979 publication "Technology and Employ-ment," by the TUC for tech-

These guidelines were motivated by the belief that the introduction of new systems allowed trade unions to increase their leverage on em-

STAFF RELATIONS

JOHN LLOYD

ployers: however, that perspective belonged to the days before unemployment began its rapid climb.

Unions in other countries have not shown the same enthusiasm for specific agreements as the British. In West and Scandinavia, issues of new technology tend to be absorbed in the general through—as in West Germany the worker-director systems.

In France, union bargaining tends to be confined to wages and conditions, and office work especially largely unorganised In Italy, on the other hand.

there is some evidence of the adoption of the UK model, though with different features. · Second, the automation of any process calls forth new skills and new types of jobs. As—an obvious example—millions of workers in horse transport and its associated jobs were replaced by millions of automobile industry workers, so the workers who transmit information on paper are gradually switching to its transmission by electronic means. The computer programmer is taking over from the file clerk, the electro-mechanical maintenance man is giving way to the elec-

tronic engineer. This is far from a painless process, especially as one type of worker whose skill is no longer required often finds it difficult to switch skills, even where training is available.

of the new skills have been across a mass of workersin areas where union organisa- indeed, there is evidence that tion is weak, while the decline many white collar unions are. of old skills have been in those at least at leadership and areas where it is strong. Steel- activist level, more militant workers are much more likely than their manual worker to be in unions, wherever they counterparts. are, than systems analysts or tourist guides.

membership now break out of the declining in- be homogeneous.

century strength lay.

This is less true in the UK than elsewhere. Unions such as the Association of Scientific. Technical and Managerial Staffs and the white-collar union Apex have been able to bring into membership a variety of professions which other union movements consider virtually ununionisable.

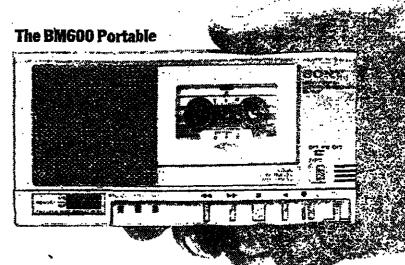
Even in the UK, however, the price for recruiting these new elements has been the require-ment to cater for demands removed from those of manual workers, and has set up strains within the labour movement political as well as industrialwhich require constant media-

Included among these strains is that of inter-union rivalry, heightened by the pressures of recession and falling membership rolls. Unions, especially those with members in advanced sectors, know their future existence depends upon the organisation of new jobs, and many of the contemporary inter-union disputes have at their base the disputed rights of organising round a particular piece of new technology. • Third, it is likely that the sharp lines between manage-ment and workers, which proceeded in part from the need to mobilise armies of industrial workers and to impose a discipline upon them, will continue to blur. Production workers will shrink in size as a proportion of the workforce, and in numerical terms as well: robots and other forms of automatic equipment will take up many of their tasks. Work groups will tend to become smaller, oriented more towards

tasks and projects. The implications for indusrelations are already visible: pay bargaining will continue to become less centralised, while the demand for more control over the conditions of work will grow, though taking different forms in different countries.

This does not mean that conflict will cease: indeed, it may take sharper forms. Nor does it mean that unionisation will cease to be both indus-In very broad terms, the rise trially and politically militant

It does mean, however, that the forms of activism will The U.S. is the most obvious become more varied and the example of the trend: upion alliances within labour move covers less ment more shifting. The "workthan 20 per cent of workers, ing masses" idealised by the and unions find it difficult to early socialists will no longer



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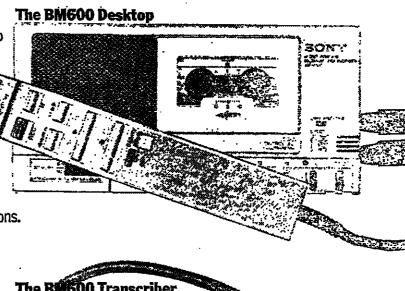
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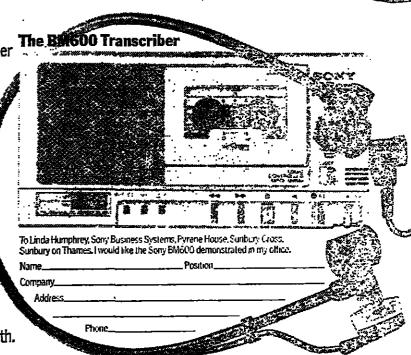
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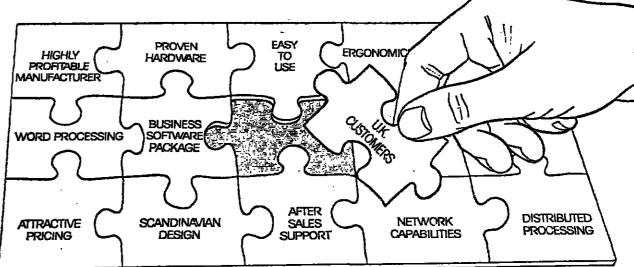
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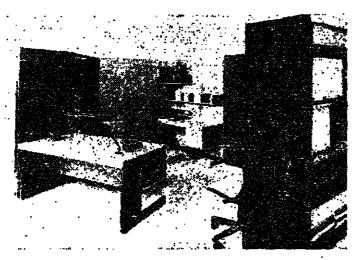
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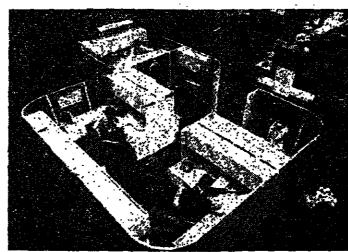
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AMONG THE range of systems furniture being launched at the International Business Show is the British-made Lucas Programme 2 (top left), a modular, free-standing system designed to meet, and also anticipate the denunds of the electronic office; the centre picture is an example from the comprehensive Westinghouse range; and, far right, is the new In Team system being launched at IBS by Martela Contract Interiors of London.







Competition intensifies in systems furniture market

ture market in Britain is estimated to be at least £37m, sis "range of systems furniture according to the latest report conducted by the National Busi-

ness Equipment Survey.

The report also suggests that Herman Miller is leading the field with a 32 per cent share of the market which, in general, is also highly fragmented. Among other notable manufacturers, Hille, for example, takes a six per cent share, according to the NBES report.

One of the more interesting system within the Contract Defeatures of the survey is the impact within the last two years at IBS. The three basic elements pact within the last two years made by Steelcase Strafor, a relative newcomer to the UK market but the largest manu-

OFFICE FURNITURE

MICHAEL WILTSHIRE

facturer in its field in the U.S. The Steelease target turnover in the UK is reportedly £40m by 1985-86.

Continental and U.S. manufacturers have taken the initia- furnishings, mainly by cotive in the UK marketplace because of the failure of some British manufacturers in terms of product-innovation, according to Jean Dayis of the NBES tion existed to group together survey unit.

A large proportion of British furniture manufacturers have not understood the full implications of the electronic office and are only just beginning to meet design-function require-

however, introducing new systems at this year's International

THE SIZE of the systems furni- Business Show. Arenson Inter-

the company's "President" range of conventional furniture has traditionally been sold through its widespread dealer network and Arenson will be marketing its new systems range

through dealers, too. Historically, systems furniture in Britain has been sold on a

direct sales-force basis, Lucas, another UK company, is launching its Programme 2 of the system—desking, storage and screening—will be dis-played independently and as an integrated system.

One of the oldest-established of British steel furniture manufacturers, G. A. Harvey, is to introduce a range of systems furniture at the Inscape show arranged by the architectural press, in London's Barbican in

Some European countriesfor example, Denmark and Italy—have been highly successful in developing international reputations for good commercial ordinated national promotional projects. British companies have suffered in international markets because no organisathe best of British design in all aspects of commercial interiors, and to promote it as

a national asset. Now the Contract Design Association has been formed by some of the leaders in the ents. contract furnishing industry in Some UK manufacturers are, an attempt to rectify this

An unusual and recent



Mr Gary Vinson of Herman Miller, the UK market leader, has a team of more than 70 in sales and support

initiative, called Designers' under five main headings: Saturday, was also recently arranged in London by leading independent companies to pro-vide an opportunity for architects businessmen to combine work with pleasure and discover more about the furniture design trends for 1982. Companies involved in the event included Aran Designs, Baumann Kendix, Domus, Environment, Ergonom, Herman, Miller, Hille International, House of Sweden, Interspace, Liberty,

Woollens and Scott Howard.

Broadly speaking, office furniture can be categorised



Tony Warner of Westinghouse — developing long-term relationships with client-com-

panies

• Conventional furniture is the most commonly used type and has changed little in the last 30 years. Its main com-ponents are free-standing desks with fixed drawer pedestals; four-drawer filing cabinets and free standing screens for partial privacy.

Its advantages are that it is readily acceptable; it is suitable for private offices and for openplan and compatible with existing furniture. There is also the provision of status with larger desks and veneered work tops and so on.

Screen-based



Mr Rodney Edge of NKR Environments—questions the degree of support offered by dealers

Linked screens form the basis Screen-related systems: of these systems, with all other. These are similar to the prenponents relating to them. Work surfaces, storage units and pin-boards are all suspended on the screens. The idea was developed by Robert Propst in the early '60s for Propst in the early '60s for Herman Miller, and based on evaluation of office work and types of activity.

Its many advantage include the ability to create ergonomic "tallored" work stations to suit individual needs; there is efficient space utilisation and a Storage related systems: flict of interests: Dealers are community inight well evolve to a high level of visual privacy Again, these are similar to driven by turnover, whereas support our client-base with and accessible personal storage screen-related systems, but rely we're in the relationship bust systems solutions." adds Mr



Mr John Sidwell of G. A. Harvey—soon to launch an all-British system furniture range

vious system, but not dependent on screens to function. There are free-standing or screen-connected desks or mobile drawer pedestal

Advantages of the system include flexibility and the provision of varying degrees of privacy. It is suitable for both private offices and open-plan areas usually it is compatible with existing furniture.

on storage units instead of ness. This special link is going.

screens for separation and privacy. They are mostly Italian Customers won't get this and in origin and well designed tude or relationship from a Such systems offer good use of dealer vertical space and are advanta Westinghouse uses

This system, a fairly recent with proper service and pre-development, originating from motional support.

Germany, maximises work sur-face areas and allows the director of MRR Environment. transfer of documents between of London, whose parent com-group members. It also allows pany is one of Sweden's largest-the shared use of computer ter manufacturers of systems furniminals; the provision of services . ture, suggests that many dealers within the desk is suitable for -but not all are unwilling to

furniture is expanding. Competition is intensifying and the next. 18 months will see the launch of a number of British ranges intent on taking a share of this

There is controversy among systems manufacturers over the issue of whether or not to sell through dealers: the usual argument is that dealers may fall due to the complex nature of the sales, the long-term service support required and because the salesforce will not be systems-orientated.

Mr Tony Warner, director of UK operations for Westinghouse, speaks of a possible con-

geous for high storage requires specific areas, ag Scotland, but ments.

• Linked-desking systems up is firmly Westinghouse.

• Linked desking systems up is firmly Westinghouse.

Here, desks are free-standing director of Areason Intertringular infill pieces to form national, says that using dealers sometimes built into the desk cessful if chandled property top. There are separate floor the first priority is to select and standing storage units.

This system, a fairly recent with

highly automated office func provide finance, the showroun tions.

Although the conventional and support that is vital in the office furniture market is conincreasingly-competitive systems tracting, the market for systems

sector.

Nevertheless, Mr Gary Virson.

managing director of Herman

Miller believes that the UK Miller believes that the UK
"could well become a dealer
market—we recognise that the
situation is changing rapidly
and we'll adapt to continue to
meet the needs of our clients."
Herman Miller has demonstrated its commitment to the

UK market with a feam of more than 70 involved in sales and field support, systems designers and customer services staff. The group is building up a dealer network to sell the products of its new chair/furniture division. "I would like to believe that this now Herman Miller dealer community might well evolve to

The people spoke.

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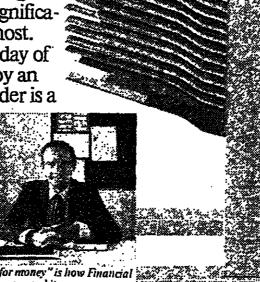
department is in a separate building, so having the NP 400 in our office will save a lot of time", said one office manager.

"The 2 reduction modes and the magnification mode are features we'll be using most. An office like ours will use them every day of the week". This was a comment made by an advertising agency."The document feeder is a

really good idea. And the sorter takes care of that boning collation", said a secretary.

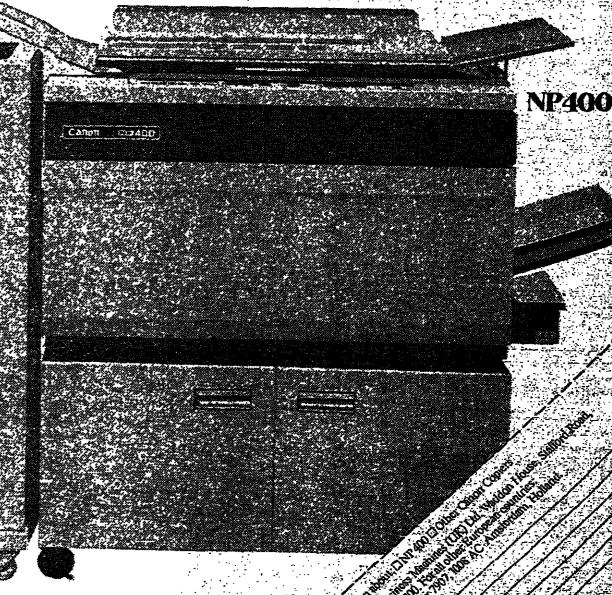
And, in the words of a financial director, "We're looking for value for money and reliability, obviously. And it seems to me that the new NP 400 gives both". All in all, we got the impres-

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FOREIGN AFFAIRS

Carret's crusade stirs the debate

By Ian Davidson

A SELEK VEARS of statemate, it, the kinds of reform which he begins to look as if there believes are desirable domestions be some room for political cally will also make a contribu-Agreement so the Irish question. How is the partition problem than the instance of the partition problem. It is the partition problem that the partition problem. It is the partition problem that it is the partition problem. It is the partition problem that the partition is the partition of the problem is the partition of the problem is the partition. The problem is the partition of the partition of the partition of the partition of the partition. The problem is the partition of the partition of

To imagine that any of this means that a "solution" to the irish problem is in sight would be absurd. But it is undeniable be absurd. But it is undeniable the second place, he wants to that political debate is stirring remove the constitutional ban on both sides of the Irish Sea. Callaghan's advocacy of withdrawal from Northern Ireland apparently sank without trace, and a motion of equivadent thrust was roundly defeated -at the Labour Party conference. But that does not mean that the idea of withdrawal is dead, and the longer the present situation continues, the greater will be

His real purpose is to force a debate

San English

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מביר : דינגנ

Temperature &

The debate being started in the Republic is rather different. Ostensibly, the purpose of it is stretching credulity to Garret FitzGerald's crusade is to imagine that their views on this turn the Republic into the kind issue will be transformed by the of place which northern Protestants could contemplate without repulsion, or with which they assertion of religious seccould at least consider co farianism in the Republic - the

force a debate among his fellow the Catholic church - was eitizens : If reunification is what they really want, and not just If, then, Ireland remains as secblatherskate cheforic with tarian as Dr FitzGerald believes. which to bring a lump to the and if the position has not been throat of every atavistic-Irish-changed by that constitutional man, then they must consider reform, then it is rather hard to what needs to be done to make see bow it will be changed by if possible, or at least less im those he is now proposing. possible. FitzGerald himself is Ireland, but he has no illusions. De, the Protestant minority has that one fine day the six diminished to the point of near counties will drop into the invisibility, and if the Catholic Republic's lap without costs and hierarchy was prepared for the without concessions. Since he also perceives the Republic as its explicitly privileged position, a distastefully sectarian state, that was because the strength of he finds it logical to believe that its position in Irish society did

freland Secretary Jun Prior grand design. In the first place presided over the ending of the ne wants to modify Articles 2 H-Block hunger strike. And and 3 of the constitution, which next month, when Dr. Fitz lay claim, or appear to lay Gerald and Mrs Thatcher meet, claim, to "the whole island of if is probable that they will Ireland," so as to transform the agree to set up some kind of sense of a claim into one of Anglo-Irish Council. aspiration, and to include the notions of peaceful means, of gradual change, and of operation in the meantime. In on divorce, which is more rigid than the Catholic church's own position on annulment. What kind of divorce law should be introduced he does not say, but at least the state should not be more Catholic than the Pope.

> In one sease, these propositions are rather baffling. It is impossible to suppose that the rephrasing of the constitutional claim to Northern Ireland, as an explicit device for securing the reunification of the island, can win over those northern Protestants who are opposed in principle to reunification. And removal of the ban on divorce. Moreover, the most explicit

subsection of Article 44 which But his real purpose is to assigned a "special position" to expunged nearly nine years ago. Some 95 per cent of the popupassionate believer in a united lation of the Republic is Cathoremoval from the constitution of



Dr FitzGerald and Mrs Thatcher: an Anglo-Irish Council looks probable next month

THE IRISH CONSTITUTION

ARTICLE 2: The national territory consists of the whole island of ARTICLE 3: Pending the re-integration of the national territory, and without prejudice to the right of the Parliament and Government established by this Constitution to exercise jurisdiction over the whole of that territory, the laws enacted by that Parliament shall have the like area and extent of application as the laws of Saorstat Eireann (Irish Free State) and the like extra-territorial effect.

not require these provocative Fail lie (though no doubt it will be tolerate the degree of pluralism required to accommodate 1m the church could hardly object to a rephrasing of the aspiration to reunification, and even less to a realignment of civil law on divorce with Catholic practice. But it has yet to be demonstrated that the church would willingly encourage anything which could in the long run weaken its position in a larger and more pluralistic

cynical, especially since the Catholic hierarchy is not a homogeneous body of men. But against the background of Irish politics, cynicism and scepticism may not be wholly out of place.

Needless to say, the Fianna

opposition party words. The first question which trodden all over Dr FitzGerald's needs to be asked in the Repub- proposals. They say that no change is required in Articles the last to be answered) is this: 2 and 3; that if the Ulstermen does the church really want were to come to the conference reunification, and could it table, then everything could be negotiated in a spirit of great generosity, but no concessions Protestants? On the face of it, should be offered in advance; and that Dr FitzGerald's proposals will be divisive - which sounds like another way of saying that quite a lot of people in the Republic don't really want anything to do with those frightful people up north.

No doubt the sharpness of the Fianna Fail reaction was partly a response to Dr Fitz-Gerald's accusation that they are That may sound unduly about reunification. "There is an element of truth in the accusation," a very senior civil servant told me in Dublin last week: "Fianna Fail has been in power for most of the past 50 years, and their legislation has almost exclusively been par-

observers in Dublin wonder whether Dr Filz-Gerald hasn't "lost his trolley." After all, he has a precarious one-vote majority in the Dail which is dependent on the support of a handful of Indepen-dents. Government has inherited an appalling financial situation with heavy debts, high unemployment, high and rising inflation, and with a commitment to shift from direct to indirect taxation (which will send the consumer price index up even faster). Is he really in a position to take on the added

Dr FitzGerald's answer is simple: he came into politics in order to do something about social reform, and in order to do something about reunlfica-If he ducks these issues now, his whole political career is

crusade?

This is what he said in his radio interview on September 29: "If eventually it transpires that the Irish people don't want this, if the people in the state want to remain fundamentally a 26-county state, based on a majority ethos, and are not prepared to work with the people Northern Ireland towards unity on a basis that could be common to both, well then I will accept defeat, and leave politics at that stage if necessary."

The reaction of the northern Protestants to Dr FitzGerald's initiative has been predictably violent, uncompromising and hostile. Last week a delegation visited Dublin to deliver to Dr FitzGerald and distribute more widely a document which was designed to be counterproductive from every point of view. In one hysterical breath, running to seven single-spaced pages, they demanded the abrogation of Article 2 and 3 and declared that nothing whatever would ever induce them to contemplate reunification. In other words, so far the dialogue in this little drama is running true to form all round.

to come round to the view that they could get acceptable terms for reunification; but then he testants and all the Catholics perceives this as a real danger.

More detached (and more would be enough to secure a majority, and that is a calculation which may explain the hysteria of the document delivered last week to Dublin.

If Dr FitzGerald needs to get a crowbar into the crevices of the Unionist rock, he also needs to shake the immobilism of British Government policy, and that is part of the purpose of trying to set up regular political links between Dublin and London. If an Anglo-Irish Council is set up, it will in one sense be an outgrowth of the joint civil service studies which were launched at the Thatchercontroversy implied by his Haughey meeting in Dublin last December; just what these studies amount to remains a dark secret, except that they include issues touching on the border and on the citizenship of people in the two parts of Ireland. But in the context of the more ambitious Dr FitzGerald strategy, the Anglo-Irish link is vital as a guarantee and encouragement, to those Protestants who are not set in concrete, to come round to the liew that the Republic is not a bastile state, and it is also vital as a means of persuading the British Government that a new tie an Irish) ingredient is required if there is to be any way out of the present impasse.

Even Fianna Fail perceives danger

The problem here is that Mrs Thatcher may imagine that she has won a magnificent victory over the H-Block hunger strikers. Of course, they did admit defeat; but in the course of the hunger strike the extremists recruited quite a lot of volunteers and raised quite a lot of money, and they have achieved some striking successes in the political arena. The question that now arises is, will they form an alliance with uncompromisiny politicians in the Republic, whose first target would be the downfall of a conciliatory government like that of Garret FitzGerald. scenario most feared in Dublin is that the continued deteriora-Of course. Dr FitzGerald does tion of the economic situation not expect ever to be able to in Northern Ireland, where unpersuade a majority of Unionists employment touches 20 per cent, could eventually lead to the destabilisation of the Republic, and that in the end does not need a majority of Ireland will turn into another Unionists; a quarter of the Pro-Lebanon. Even Fianna Fail

Lombard SDP in search of an identity

By Peter Riddell

THE Social Democratic Party idealists without power, has established itself as a real

The SDP's core comm political party. It is no longer merely the creation of the Gang of Four and a few ex-Labour activists. The party is beginning to have a life of its own with flesh and blood members who

have strong commitments and opinions, Yet after the week-long rolling conference through Britain the party's identity remains blurred. Is the SDP trying to become a successor to the Labour Party on the left or is it seeking a new role in the middle ground? Is the party aspiring to present a mixture of the policies of the last 20 years on a more consistent and coherent basis than before? Or is it proposing a radical new

Political forum

The membership clearly wants to create its own party. The dominant group consists of middle managers, small businessmen and professionals, the majority of whom have not been involved in politics before. They appear to take their politics seriously. One sign is the revival of the public meet-ing as a political forum. Another indicator is their strong views on organisational matters. For instance, key proposals of a majority of the leadership on the party constitution look like being overturned when the whole membership votes next

On policy, there is so far broad agreement between leaders and members on the core commitments, to the EEC. to Nato, to general disarmament but against unilateralism (much to the relief of the party's leaders), to electoral reform, to the mixed economy, and to freedom of choice in education and in the health In many respects the SDP

hard rather than the soft centre. Many of its members clearly have successful careers and take a realistic rather than an idealistic view of political issues. The SDP is the party of those who run (or want to run) organisations. It is thus distinct fairly) to be more the party of new members.

The SDP's core commitments encompass a wide range of opinions on specific issues. There is no shortage of policy proposals. The problem is how to reconcile the ideas, some of which obviously are an extension of previous Labour Party thinking and some of which represent a break into new ground. It is all very well to let a thousand flowers bloom but is the party really committed to another reorganisation of regional and local government in Britain? Do the members really want a revived National Enterprise Board?

The snag is that, the more the party establishes policies an identity, the more it risks alienating potential sup-porters. On housing, for example, the leadership has been playing down suggestions for a reduction in tax relief on mortgage interest. But at a fringe meeting there was strong support among the party's housing experts for a review of the favourable position of owner occupiers (a large slice of likely leadership is trying to maintain a fine balance on trade unions. There is strong support for moves to bring more democracy to the operations of unions yet the union members of the party are sensitive to the danger of union bashing.

On economic policy, there is clear distinction within the leadership between those who favour a formal incomes policy agreed with the unions and employers and those who support the market economy and a more decentralised approach. The in-flation tax suggested by Mr Roy Jenkins is partly intended to bridge this gap, though from the market side.

The SDP is rightly wary of too many manifesto commitments. appears, in Dr David Owen's But it needs to resolve these words, to be the party of the policy differences if it is to establish a clear identity and to fulfil its hopes of being a party of power rather than just of short-lived protest. The SDP has yet to show whether it can

fully emancipate itself from the while broadening its appeal from the Liberal Party which beyond the middle class pro-often appears (somewhat un-fessional interest of most of its

Letters to the Editor

Will investors on the Bourse get a fair deal?

From the President, Credit Commercial de France Sir.—On several occasions you tial election.

ful study of the methods by the longer the period of refer-which the indemnities are to be ence, the lower the average calculated and paid shows that price. the compensation scheme To refer to quotations as far adopted by the Government is back as 1978 without making

in fact totally unsatisfactory. tion is based on the three criteria which are generally used year during which the bonds to assess the value of an exter-representing the indemnity are prise: Stock Exchange quotations, the value of net assets,

paramaters. However, the way purchasing power, they are to be applied has been. Between January and March distorted-I fear deliberatelyand calls for serious criticism. The Government's Bill-refers to the average of Stock Exchange the average of Stock Exchange held in late March of that year quotations over a period of three held in late March of that year gesigs 1978, 1979 and 1980. This The Government's bill construction of the con

for example when a firm value of a company. First the merges with another firm or not assets referred to are only takes over another firm, a far the net assets of the parent shorter and more recent period company, instead of the con-is taken, usually the previous solidated net assets, i.e.: the three or six months. I believe net assets of the group. The our Securities and Exchange difference may be considerable. Commission had suggested that if the parent company has the Government take as a basis, numerous subsidiaries which for calculation the average of because of their own developquotations during the first three ment, or for their own security, months of 1981. A more recent have accumulated rather large period cannot be taken into reserves in the course of their account, since the share prices, existence. In such a case, the of companies due to be parent firm's interest in the

The buyers' premium convinced that, after inevitably vast expenditure, the outcome would have been the permanent at auction: lifting of the premium. Even had the auctioneers lost the London and Provincial Antique court case there would have been no legal objection, accord-

Sir.—Mr David Mason (letter ing to advice we had received, October 6) was guilty of a to Freudian slip when he referred to my association as baving capitulated, together with the British Antique Dealers' Association, to Sotheby's and Christie's by withdrawing the joint legal action against the estimated as 25001-25001 since the inception of the impost, few two auctions houses in return the inception of the impost, few that for a somewhat vague under would seriously believe that taking by them to "review" any such decision would have the terms of their respective. buyers' premium charges. It

have published news and com- Instead the Government chose

ments about the compensation a much fonger period which is of shareholders in firms which unfavourable to shareholders the French Government intends for three reasons: It is unfair to nationalise. One of your to the shareholders of the most headings referred to a fair successful companies, whose offer." Such a conclusion may profits and consequently, share indeed result from a quick read—prices—were in constant ining of the draft Bill, but a care—crease, for these companies,

fact totally unsatisfactory. any provision for inflation is For companies quoted on the clearly unfair. Between 1978, tock Exchange, the calculatine date when the reference period begins and 1982, the to be remitted to shareholders, considerable monetary depreand a multiple of the net profit ciation will have occurred; the One can of course only agree French Franc will have lost with the choice of these three well over 50 per cent of its

1978, French share prices were greatly depressed by the pros-pect of a victory of the left in the parliamentary elections.

not normal. Issues practice, definition of the net asset

would seriously believe that

been made, even had the court

the power so to do.

nationalised dropped consider subsidiary will remain in the tions: 50 per cent for Stock ably after the May 10 Presiden parent firm's balance-sheet, Exchange quotations. 25 per stated at its acquisition value, which means that it takes into account none of the accumulated reserves in the balancesheets of its subsidiaries.

project are the net accounting assets, instead of the revalued net assets. In normal business practice, one always determines the real value of assets at the date of their revaluation.

As for the third criterion, i.e. profit-making capacity, the Government has made the same mistakes as with the Stock Exchange quotations and the value of net assets: it only takes into account the results of the parent firm, instead of the group's consolidated results; it refers to the average of these results for the three years 1978, 1979 and 1980, without taking into account monetary depre-

ciation. capitalisation retained for the evaluation of a company on the basis of its profits generally exceeds 10 (the multiplier used by the Government) and is commonly about 20 to 25 for

In calculating the amount of each indemnity, the Govern-ment has weighted the three criteria in the following propor-

(average)

cent for net assets, and 25 per cent for profit-earning capacity. Thus, Stock Exchange quotations will have a preponderant weight. Considering the dates Secondly the net assets of reference chosen by the referred to in the Government's Government, this is very unfavourable.

Finally, it must be borne in mind that shareholders are not to be paid in cash, but instead are to receive bonds having a life of 15 years. They will in all likelihood be able to sell these securities on the stock market, but no doubt with a sizeable discount due to the pressure of sales.

For holders who choose not to sell immediately, repayment over 15 years without any kind of indexation would result in a heavy loss on capital. At the present time, the French inflation rate is about 15 per cent a year. At such a rate, after I should add that the rate of seven years a franc would be only one-third of its initial value, and after 15 years, less than 10 per cent of

its initial value. To enable your readers to judge for themselves, I give the essential figures as applied to Crédit Commercial de France (see Table). Jean-Maxime Lévêque 103, Champs-Elysees, 8e Paris.

Evaluation accord- Evaluation based on rmai business ing to the Government's project Ffrs Stock Exchange figure 301.21 145.95 425.37

that in practical terms it is the vendor who pays the premium. This has never been widely recognised, but if the auctioneers decide to reduce the premium charge then the neces- 112, Brompton Road SW3. them reimposing the sary compensating increase in premium soon afterwards inthe vendors' commission should make it that much more obvious Baggage handling dependently of course. As for the speculation that they might that a higher net return will have been forced to repay the often be gained from selling to total premium monies received, a reputable dealer than in the

estimated as £30m-£50m since sale-room. Finally, it is also often overlooked that the buyer at auction, quite apart from receiving nothing in the way of services for his premium payment,

Meanwhile I would like to are able to apply conditions of endorse Mr Mason's valid point sale that virtually absolve them descriptions in their catalogues of the items they offer for sale. Philip Broadbridge, Secretary.

284.62

From the Managing Director. British Airports Authority Sir,-I don't want to mar the good impression Mr Martin has of British Airways but I must explode a myth in his letter (October 8).

British The Authority is not responsible for was, of course, the Society of However, reverting to Mr enjoys less legal projection than the ground handling of baggage when buying in a dealer's shop.

London Art Dealers who acred Mason's anger at the dealers' when buying in a dealer's shop. arrangements at Heathrow for Sales at auction are not "consumer of the sales within the terms of much consumer protection any liking for the premium but announced the outcome of their because we had never been deliberations in 3 months time.

Althority is not responsible to the ground handling of baggage when buying in a dealer's shop. Sales at auction are not "consumer more consumer arrangements at Heathrow for Sales at auction are not "consumer of the premium but announced the outcome of their legislation, the effect being that, because we had never been deliberations in 3 months time.

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It must be the Peterborough

The

Sharp fall

at Armour

Trust

sider the payment of a special distribution to shareholders when it has received the pro-

reeds—estimated at \$20m net-from the sale of a 70 per cent interest in the group's Malaysian plantations.

The interest in the plantations

is being sold as to 40 per cent to Permodolan Nasional and 30 per cent to Perlis Plantations.

Permodolan is a Malaysian Government investment body set

up in 1978 to promote the owner-ship of share capital by the Bumiputra (Malay) community in the corporate sector of Malaysia under the Malaysian Government's New Economic

Policy.
With large family and asso-

ciated holdings behind it the sale—which represents about 45

per cent of the group's assets— seems certain to be approved at

the special shareholders' meeting called for October 28. A number

of minority - shareholders are understood to be critical of the

sale price, but if the sale goes through they would prefer to have the proceeds distributed by

way of a capital repayment to

shareholders rather than re-

terday detailing the disposal, Mr John Barlow, chairman of

Barlow Holdings, says that agreement on the sale came

about after "extensive discussions" with the Malaysian

priate route by which the com-

pany can comply with the requirements of the "New Economic Policy" while retain-

ing a significant interest in the

A professional valuation of the

group's traditional business.

In a document released

invested elsewhere.

Malaysian Sen each

50,000,000

An Extraordinary General Meeting of Malayan In Bredging (M) Berhad ("the Company") was held on 10th October, 3881 at which shareholders approved the merger of the Camping with Malaysia Mining Corporation Berhad and an intrases in with Malaysia Mining Corporation Berhad and an intrestern the authorised share capital of the Company to Malaysian Ringgit 50,000,000. In addition shareholders afformed the change in name of the Company to Malaysia Mining Company to Berhad. The change in name will be effected affor the necessary local Malaysian legal requirements are net necessary local Malaysian legal requirements are necessar

October 1981.
Particulars of the Company are available in the Exigination Statistical Service and copies of such particulars may be obtained during business hours on any weekday (Samuday) and public holidays excepted) up to and including 26th October, 1981 from:

N. M. ROTHSCHILD & SONS LIMITED New Court, St Swithin's Lane London EC4P 4DU

and from ROWE & PITMAN 1st Floor, City Gate House 39-45 Finsbury Square London EC2A 1JA

M. J. H. Nightingale & Co. Limited

Countryside Investments, a joint Countryside Investments, a joint venture company in which the group has a 40 per cent interest and Majedie 20 per cent. The remainder of the capital is held by Countryside Properties. The Malaysian estates are to be transferred to a new subsidiance.

directly in UK property. Part of this will be invested through

The following companies have notified dates of board meetings to the Stock-Exchange. Such meetings are usually held for the purpose of considering dividends. Official indications are not available as to whether dividends are interims or finels and the subdivisions shown below are besed mainly on lest year's timetable.

TODAY

Interims: Arbuthnot Government sry, Barlow Plantations, in which the group will have a 30 per cent interest. This will be treated as an associated company and the group's interest consolidated
A pro-forma consolidated balance sheet as at year end 1980, adjusted for the sale of the

Interms: Arbumnot Government Securities Trust. Currys, Edinburgh Investment Trust. Finals: Glazo, R. Green Properties. Harrisons Malayalan Estates, London Scottish Finance, S. Lylas.

paying special distribution

BOARD MEETINGS

FUTURE DATES	
interims '	
British Syphon Industries	Oct 16
Brook St. Bureau of Mayfair	Oct 14
Chloride	Nov 11
Empire Stores (Bradford)	Oct 14
Greenbank Industrial	Oct 15
Harrison (T. C.)	Oct 14
London and Northern	Oct 25
Mothercare	Oct 15
Mowlem (John)	Oct 15
Save and Prosper Linked Inv.	
Trust	Oct 29
Shires Investment	Oct 13
. Final—	
Guildhell Property	Oct 15

1980, adjusted for the sale of the estates, shows assets of £10.7m relating to the stake in Barlow Plantations. Investments are shown at £10.51m and total assets at £44.2m.

Following the disclosure on Thursday that Barlow, through its subsidiary Barlow Investments, held 6.25 per cent of Blantyre Tea further holdings were revealed by other parties yesterday representing a further 10.76 per cent of Blantyre's capital. The total holding of 17.51 per cent is regarded by the Takeover Panel to be a single holder value of M\$181m (£42.1m). The directors point out that since then, rubber and copra prices have fallen substantially from those assumed in the valuation. The sale agreement announced in September.

Mr Barlow says that about one half of the sale proceeds will be invested in a broadly-based portfolio of UK listed The directors concluded that the disposal was the most appropriate route by which the control of UK listed securities to add to the present portfolio which is valued at about £12m.

Majedie Investments together own the capital of Euston Estates, a Hong Kong company which has £4m invested in listed securities in Australia, Hong Kong, Japan and North America.
The group intends to invest estates on an open market basis The group intends to invest as at March 31 1981 showed a the remainder of the proceeds

explanation from the company and will then consider the Key City Props.

of Key City Properties held in Gibraltar, Mr Ancrum Evans, chairman, told shareholders that property sales in the first half of the current year were approaching the total for the

Mr Evans said a dividend of 2p per share free of tax would be paid in January 1982, equivalent to a doubling of the payment allowing for a one-for-

Key City is a Gibraltar-based

paying double

over Panel to be a single holder under the "associate" definition

of the Panel rules.
These holdings are shown as:

shares 6.85 per cent; Majedie Investments 84.800 shares 4.44

per cent: The Monastery Bonded Tea Warehouse Company, 53,760

shares—2.81 per cent and Thomas Barlow 67,000 shares—

3.51 per cent.

Barlow Holdings said on Thursday that the size of the company's holding in Blantyre had come to its attention as a result

of the bid for Blantyre from Eastern Produce. The Depart-ment of Trade is seeking an

Investments 130, 916

Barlow

3.51 per cent

At the recent annual meeting whole of 1980-81.

He was confident that profits for the year to March 31 1982. would again show an improve

property investment and development company

27/28 Lovat Lane London EC3R 8EB Telephone 01-621-1212 Berdon Hill 180 Deborah Services 97 Frank Horsell 112 Frederick Parker 56 Geörge Blair 51 IPC 96 Jeckson Group

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INTEREST % 131 131 131 131 14 14 Deposits to and further information from The Chief Cashier, Finance is: Industry Limited, 91 Waterloo Rd., London SE1 8XP (01-928 7622, Ext. 367). Cheques payable to "Bank of England; a/c FFT" FFI is the holding company for ICFC and FCL.

Lister curtails Barlow Holdings considers loss to £0.6m

J. E. England profits

TAXABLE PROFITS of Armour AN IMPROVED second half enabled Lister and Co, textile Trust, the holding company with interests in confectionery, television and property investment, slumped from £440,000 to £60,000 in the year to April 30, 1981 on turnover marginally ahead at £8.83m, compared with £3.23m. manufacturer, to curtail pre-tax losses at £629,000 for the year to March 28 1981, compared with deficits of £767,000 midway and £843,000 for the whole of last At the half-year stage the com-At the interim stage the board associated said it expected these results to credited.

pany had already fallen to pre-tax profits of £5,000 (£241,000) and turnover stood at £4.58m show that the drain on the com-The annual dividend is main-being maintained at 0.125p net tained at 0.1p net per 25p share. The deficit per share is given as tion that the poor results will not be repeated, the directors say.

Earnings ner share are given as pany's resources had ended.

The annual dividend is main-

Earnings per share are given as 0.4n (2.8p). Confectioner Carter Penguin Group had another good year, the directors say, although last year's record profit level was not reached. Confectionery sales to retail outlets continue to be satisfactory, but demand for specialised Christmas goods by wholesale and multiple retail

customers has been disappointince the half-year when it was reported that Telesure Group was experiencing problems, its trading position has declined further. Considerable reorgani-

sation has since taken place including rationalisation of its Manchester operations
After a tax credit of £6,000 (£28,000 charge), extraordinary debits of £272,000 (£9,000) and minority debits of £4,000 (£9,000

credits) the losses attributable

emerged at £210,000 (£412,000

Farmers, combining their potato activities, has helped to increase the first-half taxable profits to July 4 1981 of J. E. England from £36,843 to £63,038, though the group's sales were lower at £5.24m compared with £8.47m.

The interim dividend of this potato, grain and produce grower and merchant, is being increased to 0.44p net (0.4p) per ān share. Last year a total of 0.8j was paid on pre-tax profits of £60,234. Earnings per share for the six months are given as 0.59p (0.72p).

The directors say that as a

improve to £63,000 THE JOINT venture between result of the joint venture—
J. E. England and Sons (Wellingannounced in May—the first half
was relieved of the traditional
running and maintenance costs running and maintenance costs of the seed potato activities prior harvesting and marketing. The venture is progressing well in line with expectations, and and they hope to be able to make a more definitive statement about its progress at the time of the annual report.

On turnover down to £31.59m (£39.08m) higher trading profits of £1.39m (£1.12m) were-

of £1.39m (£1.12m) wereachieved. However, interest
charges on bank overdrafts and
loan capital were up at £2.11m
(£1.96m), eradicating these earnings. A £90,000 share of
associated company profits was
cradited.

Tax took £103,000 (£43,000). Debits of £199,000 (£820,000)

Looking to the full year the directors say that subject to unforeseen circumstances taxable profits should exceed £100,000 Tax for the six months took £32,779 (nil) and dividends absorbed £22,875 (£20,875). Last time there were additionally extraordinary debits of £125,499.



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Currency	Equivalent annual % return in sterli achieved over per 29.7.80 to 30.6.
US dollar	+43.04
Canadian dollar	+36.64
Singapore dollar	+36.08
Sterling	+13.90
Italian lira	+ 2.36
Swiss franc	+ 1.52
Belgion franc (financial)	— 2.12
Deutschemark	— 3.14
French franc	— 3.63
Dutch guilder	
	•

A copy of the Company's accounts for the period ended 30th June 1981 may be obtained from:

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NM Rothschild & Sons Ltd Old Court International Reserves Ltd St Julian's Court St Peter Port

0481 26741 01 626 4356 This advertisement does not represent an invitation to subscribe for or purchase shares of Old Court International Reserves Limited. Shares may only be acquired on the basis of a current prospectus and application form, which are available from either the Company or N M Rothschild & Sons Limited.

Guernsey CI

by Jefferson Smurfit JEFFERSON SMURFIT. the dissatisfaction about the terms of the Smurfit offer.

Alton deal completed

Irish paper and packaging group, has completed its effective acquisition of Alton Packaging Corporation, the U.S. paper products company in which it already held an 80.6 per cent share. But there are signs of dissatisfaction among some of Alton's minority shareholders.

At a meeting of Alton shareholders in Alton, Illinois, an 88.9 per cent vote was taken-including Smurfit's own controlling interest-in favour of a merger between the two companies. Under the terms of the merger, Smurfit will purchase the outstanding 19.4 per cent of the shares at \$271 per share. simple majority was required to approve the merger.

Shareholders accounting for 3.1 per cent of the total equity voted against the merger redress, though they can with Another 182,673 shareholders, draw and still accept the Smurfit representing just under 8 per cent, did not vote at the meeting.

Under U.S. law, shareholders opposing or not expressing approval are entitled to seek an independent reappraisal of the offer by the U.S. courts. Notice is believed to have been served to Alton by some shareholders that they intend to pursue this course, but the company could not confirm last night that it had received any such request.
Smurfit's offer for the remaining shares indicates a total pur-

chase price for the whole equity

of around \$52m. Alton has 10 days in which to confirm the receipt of reappraisal requests from any dissenting shareholders and to serve them with notice of legal procedure. They then have 120 days within which to proceed to the Delaware court of chancery and seek draw and still accept the Smurfit offer in the first 60 days.

Thereafter they are obliged of UK institutions were among dation, whether it is higher or those shareholders who did not lower than the original price on vote and that this reflects some

Braham Millar chief attacks Fieldwood bid

IN the formal rejection of the bid from Fieldwood, Mr G. Ross Russell, chairman of Braham Millar, describes the offer as a mischievous attempt to acquire control of your company before you can share in the benefits of the substantial rationalisation programme still in progress."

He says that the level of the offer is wholly inadequate, does not reflect the true value of the company's shares, and has no industrial logic.

The chirman asks: "Is Fieldwood attempting to carry out an asset-stripping operation at your

the group has cash, freehold properties, and other net assets totalling 53.4p per share com-pared with the offer of 24p per

sbare. The chairman says it is the group's intention to pay out as dividends the whole of the investment income received from surplus cash generated as well as any additional amounts

justified by trading results.

The directors do not intend to accept the offer in respect of their 0.7 per cent holding. Addi-tionally, the board has been informed that certain private investors and past and present employees whose holdings amount to a further 17.4 per cent do not intend to accept the offer.

FT Share Information

The following securities have been added to the Share Information Service:— Allianz Versicherungs AG (Section: Insurance) CALA (Property) Companies, Inc. (Americans)

SPAIN Oct 9 Price % 356 342 305 320 321 322 245 381 235 381 235 381 235 51.5 76.5 77.1 110.2 Banco Bilbso
Banco Cantral ...
Banco Exterior ...
Banco Hispano ...
Banco Ind, Cat. ...
Benco Santandar...
Banco Urquijo.....
Banco Vizosya ...
Banco Zargoza ...
Dragađoza ... 22 63.5 Hidrola Iberduero Petroleos 52 70 70 51 60 Petroliber Sogellas Telefonica

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> CORAL INDEX Close 494-499 (+9)

The **English Association** Group PLC

1981 Results Year to Year to 30 June 1981 30 June 1980 £9.933m £2.073m Share capital and reserves Group profit before taxation £0.530m £1.045m 19.29p Earnings per share 11.48p Net dividend per share 6.00p 5.00p

☐ During the year the Group raised a total of £7.5 million by way of rights issues to further the expansion of its merchant banking business

Shareholders have now been offered a one for one bonus issue.

During the year, the balance sheet total of our merchant. banking subsidiary, The English Association Trust, rose from £24.4 million to £62.9 million

☐ Prospects of the Group for the current year are again encouraging

Copies of the Annual Report and Accounts can be obtained from: The Secretary,

The English Association Group PLC.

4 Fore Street. LONDON EC2Y 5EH

CHANGE OF ADDRESS

Baring Brothers & Co., Limited announce their return to

8 Bishopsgate, London EC2N4AE

Monday 12th October 1981 New Telephone Number 01-283 8833

Telex 883622 - Investment orders 884417 - Foreign exchange 884529 or 883520 Kalle Infotec/Rapifax (Groups 2-& 3) 01-283 2633

This advertisement complies with the requirements of the Council of The Stock Exchange.

Lloyds Eurofinance N.V.

(Incorporated in The Netherlands with limited liability)

U.S. \$200,000,000

Guaranteed Floating Rate Notes due 1993 Guaranteed on a subordinated basis as to payment of principal and interest by

Lloyds Bank Limited

(Incorporated in England with limited liability) The following have agreed to subscribe or procure subscribers for the Notes:-

Lloyds Bank International Limited

Amro International Limited Bank of America International Limited Bank of Tokyo International Limited Crédit Lyonnais Deutsche Bank Aktiengesellschaft Hambros Bank Limited LTCB International Limited

Swiss Bank Corporation International Limited

Nomura International Limited

S. G. Warburg & Co. Ltd.

Bank Brussel Lambert N.V. Crédit Commercial de France **Credit Suisse First Boston Limited** Goldman Sachs International Corp. **IBJ International Limited** Merrill Lynch International & Co. **Orion Royal Bank Limited** Union Bank of Switzerland (Securities) Limited Westdeutsche Landesbank Girozentrale

Arab Banking Corporation (ABC)

The Floating Rate Notes, to be issued at par, have been admitted to the Official List by the Council of The Stock Exchange subject only to issue. Full particulars of the Notes are contained in cards circulated by Extel Statistical Services Limited, and copies may be obtained during normal business hours up to and including 2nd November, 1981 from the Company Finance Department of the Brokers to the issue:

Heron House, 319/325 High Holborn, London WCIV 7PB.

12th October, 1981

Cheered market regains its appetite

The LOOKED at though the (\$54m), the European Invest-ciouds had finally litted from ment Bank (\$100m), and the international bond markets General Motors Acceptance Cor-last week. Although past experi-gace has shown the risk of pre-dicting continuing sonabine, the issue this week for Anheuser impact of falling interest rates, Busch. particularly in the ILS and West Germany, provided con-siderable cheer for major Euro-loud borrowers investors and declared

issued into

lalaysian ?"

JMITED.

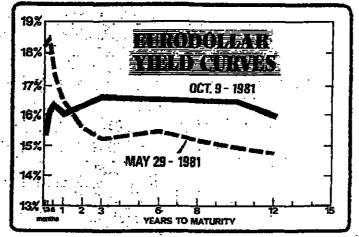
dealers.
The most striking feature of last week's uption in the bond markets was not the size of new issues a rotal of \$754m in fixed interest Enfodular bonds but the reports by samerous traders that the market was actually digesting the flow.

While Fed funds touched a low of 124 per cent in the U.S. and Citibank chairman Walter Wriston predicted that the U.S. prime rate would fall to 10 per cent by uext year a flood of famous and not so famous borrowers came to the market. The list included Citicorp itself (\$150m), Ohio Edison (\$50m) Quebec (\$150m), Arizona Power British Columbia's

Traders in the Eurobond markets stared long and hard at Washington and Frankfurt and seemed to like what they saw, in the U.S. Mr Ed Meese. President Reagan's right-hand man, spoke of his desire that the MIB money supply should fill targets. In West Germany the Bundesbank cut the special Lombard-rate from 12 to 11 per

In the secondary market, prices reflected the new-found spirit of optimism: Eurodollar bond prices rose 11 points on the week, D-Mark foreign bond prices rose 14 points, and in Switzerland foreign bond prices were up nearly two points.

Six-month rates fell in three key currencles. The six-month Simpson Sears (\$40m), Hydro- Eurodollar rate fell nearly two points to close the week at Hambros Bank, were quoted at This rather innovative issue 162 per cent; it touched a level a bid price as low as 98 against provides the borrower with the



Swiss franc rate hit 101 per cent, a drop of } point. Among the week's new Euro-

dollar issues, only one seemed to be having a slightly difficult time. The EIB's 161 per cent 10-year bonds, managed by

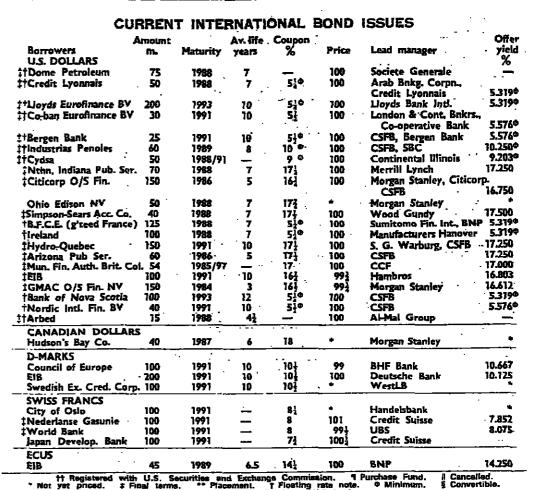
The D-Mark rate declined i of pre-market trading. The star a point to 111 per cent and the of the market appeared to be the \$54m adjustable coupon 16year offer for the Municipal Finance Authority of British Columbia through Credit Comtrading on Friday at a bid price of 100%.

Municipal Finance Authority below 16 per cent at mid-week, the fixed issue price of 991 in option of changing the coupon

One result of last week's excitement on the Eurobond markets is that hopes of a lasting positive yield curve may now be realised. A yield curve (see chart) is a measure of the relative cost of short- and longterm money.

For the borrower, this would mean that money can be more easily raised in the market. For the investor, it makes coupons on long-term instruments more attractive, provides a certain degree of stability and offers the possibility of a capital gain as bond prices rise to bring yields into line with falling interest rates in the future.

in the D-mark sector last week, a heavy calendar, total ling at least DM 650m, was set for the next two weeks by the Capital Markets Subcommittee. As reported already, a DM 200m 10-year hond with a 10; per cent coupon was launched on Friday for the European Investment Bank, while a DM 100m 10-year bond with a 104 per cent coupon came on Friday for the Swedish Export Credit Corporation.



CREDITS

BY PETER MONTAGNON

Competitive spirit moves East

IF EUROCREDIT margins alone national banking system than for the first three years. There- securities, reflecting the fact are any guide to country risk, foans outstanding from it, are. Malaysia and Indonesia are now natural targets for asset-hungry safer bets than France.

Terms on the forthcoming \$500m to \$600m 10-year credit for Electricite de France (EDF) were set last week by Credit died away, especially where Lyonnais and reveal an average more active borrowers are con-weighted margin of slightly cerned. over 0.4 per cent. As already reported. Indonesia and Malaysia are each raising 10-year money at flat margins of only ? per

this curious state of affairs probably says more about the pitfalls of comparing loans the basis of spread alone than it does about the actual country risks involved.

Much more important than changing country risk in pushing down Far Eastern margins has been the fierce competition for business in the liquid Hong Kong syndication market

Such borrowers as Indonesia

banks.

The competitive spirit in Europe which forced spreads sharply lower last year has now died away, especially where

In any case the commitment fee on the EDF credit is a more important indicator than the margins (0.3 per cent for the first three years, 0.4 per cent for the next four and 0.5 per cent for the final three). This credit is not basically designed to be drawn but rather to back up. the borrower's commercial paper lines in the U.S.

expect to make more profit from fee income than from the margins, and the commitment fee works out slightly higher than previous EDF credits where it has been set at } per

after it is is on that part of the Ioan which is neither drawn nor used as back-up for commercial paper, and i per cent on funds which are not drawn but are used as commercial paper back-

up.
This slight increase in fee could be seen as evidence of a fractional slippage in France's Euromarket popularity, but it is far less significant than the change of sentiment in the Eurobond market, where French names have clearly lost their premium rating.

In a separate development Credit National, France's state financing agency, has decided to alter the conditions of its £75m Banks which participate thus five-year credit arranged last vear with a margin of 1 per cept through a group of banks led by Hambros. The change will allow lending

banks to change their participa-tion into 132 per cent eight- or 12-year bonds at any time dur-Such borrowers as Indonesia cent.

12-year bonds at any time durant Malaysia, which each has The commitment fee for the ing the next four years. The more deposits in the inter-new credit has been set at it bonds would be quoted

credit was to act as bridging finance ahead of the launch of a buildog bond. Credit National had origin-

ally expected to launch the bonds within a year, but market conditions have not been suitable and this is one way of releasing banks which had not expected to provide the credit for the full five years of its life. Stung partly by the break-

down of negotiations for \$500m loan for the country state railways, Italian officials confirmed on Friday that they are seeking to organise a more orderly queue for Italian borrowings in the Euromarket. The talks between Ferrovie

and its bankers broke down because the borrower sought a margin over prime rate of ${\mathbb F}$ per cent, as successfully applied in the recent ENEL \$500m deal This was too low for the banks. which do not regard the railways as a borrower of such high U.S. BONDS

BY IAN HARGREAVES

Fed agrees on need to ease credit

WALL STREET got the answer which were published that the original purpose of the it had been looking for on Fri. Friday, that even though no in the U.S. that the committee some of those long-delayed corday evening, when the Federal Reserve cut by 1 percentage point the surcharge on the discount rate it charges to large frequent borrowers.

That makes the basic discount rate 14 per cent and the premium rate 16 per cent. down from the record 14 per cent and 18 per cent respectively of last

The discount rate cut ended the argument in Wall Street sion over whether the Fed's Open Ti Market Committee meeting last Tuesday had agreed to ease credit market pressures in order to accelerate growth of the lagging M1B measure of money supply. The Fed. quite clearly, has eased modestly and in addi-tion to lowering the discount rate has probably also lowered Federal funds from 15-21 per

But it is obvious from the minutes of the August 18 Open and of such shifting composi-

policy changes were made at seems finally to have accepted porate bond issues to the that time, the debate about the that it cannot run the U.S. need to stimulate M1B was already causing divisions within M2. So, for the moment, M1B may be best not to forget all the Fed.

In the past week, this argument entered the political main- Fed feels justified in easing stream, with Messrs Bush, credit. Meese and Regan all lecturing the Fed about the need to take action in order to avoid unnecessarily provoking a reces-

August committee meetings long bond closed at just under make clear, is that much, perhaps all of M1B's sluggishness (it is growing at 2 per cent target range) has been caused money counted in the broader its preferred trading range for M2 and M3 definitions which are, respectively, at and above cent to, perhaps, 12-19 per cent. the top of their target ranges. But M2 is so hard to calculate,

on about interest rates and savings which should this week release economy by feeling the pulse of rules and, as it went down again sharply on Friday, the

Bond prices, helped also by Friday's report of a meagre 0.2 per cent increase in September producer mustered themselves for a rally, The counter-argument, as the and the Treasury's 13% per cent

99, up almost 5 points on the Short rates had drifted lower below the lower end of the anyway last week, helped by an Fed's annual 3.5-6 per cent accommodating Fed. The Fed funds rate is now expected to by a spill-over into types of stabilise at 14 to 15 per cent. allowing the prime rate to come down another notch too from the 18.5 per cent set by Chase Manhattan last week.

So, suddenly, we have the best eredit market conditions in Market Committee meeting, tion, because of changing rules the U.S. for months, something

If it all sounds wonderful, it Treasury's immense borrowing requirements and the inflationary risks involved in reheating the economy with tax in temporary oblivion in Wall Street.

"A complete reversal of both recent and prospective the improvement in bond prices remains likely later this quarter." says Braverman, market seer.

U.S. INTEREST RATES (%) Week to Week to 30-year Treas, bond AAA Utility ... AA Industrial Visible supply

FT INTERNATIONAL BOND SERVICE

•					. •		
U.S. DOLLAR `	• • • •			Chan	ge on		
STRAIGHTS	issued	Bld ·	Offer	day 1	week.	Yield	
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CIBC 16% 91	100	984	98%	+0%	+0%	17.07	•
CNA 154 96		197	90%	+9%	+1%	17.07	L.
CNE 123 91	- 100	814	815	+04	+1%	16.80	ŧ.
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	50	1024					
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EEC 144 93				+0.4			
EIB 161, 88	100			-0.			
Elec. de France 13 88	: 125			+0.			
Fed. Bus. D. 15% 84 (J)	40			+04			
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Ford Cr. O/S Fin, 16 85	150		387	+0%	+17	76.48	_
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فلتكفأ ولداج

1			Chang	ge on	
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CIBC 115 85 CS	60 84	85			17.38
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Federal Day, 173, 88 C\$	40 199	991 ₂	+04	+23,	17.96
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GMAC (Can.) 18 87 CS		102%			
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					18.73 :
					17.19 -
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		857,			
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	25 90° ₁	914	+62	+02	17.09
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EUROBOND TURNOVER (nominal value in \$m)

	Cedel	Euro- clear
U.S. \$ bonds		
Last week	3,342.3	5,262.9
Previous week	2,670.2	4,590.8
Other bonds		
Last week	· ·723.1	383.8
Provious wook	857.6	700 4

~No information available previous day's price.

†Only one market maker STRAIGHT BONDS: The yield is the yield to redemption of the mid-price; the amount issued is in millions of currency units except for Yen bonds where it is in billions. Change on week = Change over price a week

FLOATING RATE NOTES: Denominated in dollars unless otherwise indicated. Coupon shown is minimum. C.dte=Date next coupon becomes effective. Spread=Margin above six-month offered rate (‡ three month; above mean rate) for U.S. dollars. C.cpu = The current coupon. C.yld = The current

CONVERTIBLE BONDS: De-nominated in dollars unless otherwise indicated. Chg. day = Change on day. Chv. date=First date for conversion into shares.

Cnv. price=Nominal amount of bond per share expressed in currency of share at conversion rate fixed at issue. Prem=Percentage premium of the current effective price of acquiring effective price of acquiring sbares via the bond over the most recent price of the shares. The list shows the 200 latest international bonds for which an adequate secondary market exists. The prices over the past week were supplied by: Krediet-bank NV; Credit Commercial de France; Credit Lyonnais; Commerzbank AG; Deutsche Bank AG; Westdeutsche Landesbank Girozentrale; Banque Generale du Luxembourg SA; Banque Internationale Luxembourg: Internationale Luxembourg; Kredietbank Luxembourg; Algemene Bank Nede-land NV Pierson, Heldring and Pierson Credit Suisse/Swiss Credit Bank; Union Bank of Switzerland; Akroyd and Smithers; Bankers Trust International, Credit Com-London: Citicorp International Bank: Daiwa Europe NV; Deltec Securities (UK): EBC: First Chicago; Goldman Sachs Inter-national Corporation; Hambros Bank; IBJ International; Kidder Peabody International; Manufac-turers Hanover; Merrill Lynch; Morgan Stanley International; Nikko Securities Company (Europe); Orion Royal Bank; Salomon Brothers International; Samuel Montagu and Co.; Scandinavian Bank; Societe Generale Stranss Turnbull; Sumitomo

Warburg and Co.; Wood Gundy. Closing prices on October 9

Finance International: S. G.

Hiram Walker Holdings N.V.

U.S. \$65,000,000

1534% Notes due September 17, 1984 With Narrants to purchase
U.S.\$130,000,000

Zero Coupon Debentures due September 17, 1989

The Notes and Debentures are unconditionally guaranteed by

Walker-Home Oil Ltd.

S. G. WARBURG & CO. LTD.

CREDIT SUISSE FIRST BOSTON LIMITED

DOMINION SECURITIES AMES LIMITED

HAMBROS BANK LIMITED

ORION ROYAL BANK LIMITED

SALOMON BROTHERS INTERNATIONAL

SWISS BANK CORPORATION

INTERNATIONAL LIMITED

Union Bank of Switzerland (SECURITIES) LIMITED

MINORCO

Minerals and Resources Corporation Limited

Highlights 1981

- *Acquisition of approximately US\$ 1 billion of new investments
- *Net earnings increased by 50% to US\$ 171.8m
- *Earnings per share rose by 12% to US\$ 1.43
- *Dividends per share rose by 10% to 22 US cents

Extracts from the letter to shareholders by the chairman Mr. H.F. Oppenheimer

The financial results for the year to June 30, 1981 are not comparable with those for the preceding year, both because the investments acquired by Minorco in December 1979 were held for only part of the 1980 financial year and because of further major acquisitions which took effect on February 24, 1981. At that time Minorco acquired 29% of the equity of Consolidated Gold Fields (Gold Fields), 36% of Charter Consolidated (Charter), and the remaining 50% interest in Minorco Canada (formerly known as Anglo American Corporation of Canada) not held by Minorco, whose results have now been consolidated for the first time. The consideration for the acquisition of these interests was the issue of 59,326.640 new ordinary shares which increased the issued share capital to 159,128.346 shares.

Earnings from operations rose by US\$3.5 million to US\$28.2 million. An increase in dividend income of USS9.2 million was offset by exchange losses, increased administration expenses consequent upon the greater level of Minorco's activity and the rise in interest expense from USS6.6 million to US\$7.7 million. Minorco's share of undistributed earnings of investments accounted for by the equity method rose by US\$71.0 million to US\$158.7 million. Net earnings for the year amounted to US\$171.8 million, an increase of US\$57.0 million over net earnings for the preceding year. Earnings per share (based on the weighted average number of shares outstanding during the year) were US\$1.43 compared with US\$1.28 in 1980. A final dividend of 16 US cents per share has been declared bringing the total dividends for the year to 22 US cents, an increase of 2 US cents over dividends declared in the previous year.

Acquisitions and developments

During the year Minorco made a number of significant investments in furtherance of its policy of broadening the geographical and commodity spread of its interests and improving the quality of its earnings. The largest of these acquisitions was the purchase of a 29% interest in Gold Fields, which is a major UK based natural resources group with important gold and base metal mining interests in South Africa and Australia, and major investments in the UK and the USA in construction materials, manufacturing and commerce. The net earnings of Gold Fields rose by £24.4 million to £114.3 million in the year ended June 30, 1981. As mentioned above, Minorco also acquired 36% of the equity of Charter, a UK group with a wide range of industrial, investment and mining interests. Among Charter's industrial interests are investments in mining equipment, insulation, heating and refrigeration products, metal refining and civil and mechanical engineering. Mining activities include opencast coal operations, tin dredging, and wolfram and potash production. Charter's earnings before extraordinary items rose by £5.3 million to £33.2 million in the year ended March 31, 1981.

Engelhard Minerals & Chemicals (EMC) achieved record earnings in 1980 of US\$532.7 million. an increase of US\$183.0 million over 1979. Effective in May, the shareholders of EMC approved the separation of EMC into two separate companies, Phibro Corporation (formerly the Philipp Brothers Division) and Engelhard Corporation (in which the businesses of the former Engelhard Industries and Minerals & Chemicals Division were consolidated). Consequent upon the spin-off of Engelhard Corporation, Minorco has an interest of 27% in each of these companies. Early in August, Phibro announced that agreement had been reached to acquire the business of Salomon Brothers, the distinguished Wall Street investment banking

Minorco Canada has as its principal investment 44% of the equity of Hudson Bay Mining and Smelting (HBM&S). HBM&S, based in Toronto, is a diversified natural resource corporation with investments in metals, petroleum, fertilisers and chemicals located in Canada and the USA. In 1978 Minorco and HBM&S formed a company, Plateau Holdings Inc. (Plateau), in which Minorco's interest is just under 50%, as a vehicle for investment in the United States: the first acquisition was Inspiration Consolidated Copper, the common stock of which became wholly-owned by Plateau at the end of 1978. During the year under review, the asset base of Plateau was expanded by investments in the fertiliser and agricultural chemical business and in coal mining. In June 1981, a cash merger was effected with Terra Chemicals International Inc., an lowa based corporation manufacturing and marketing a wide range of fertilisers and agricultural chemicals. HBM&S has held a majority interest in Terra for some years and retains a 50% indirect interest. The cost of Minorco's interest in Terra was US\$60 million payable in cash. Terra, a progressive and well managed company, is presently engaged in the investigation of a number of major expansion projects in the US agricultural industry, including a possible investment in phosphate ore reserves and phosphoric acid production facilities.

Progress was made during the year towards the realisation of the Minorco and HBM&S objective of acquiring at least 100 million tons of coal reserves in the USA, sufficient to support an annual production rate of 5 million tons. In January 1981, Bailey Mining Company of Kentucky was acquired: the production rate at Bailey Mining is being increased from its present level of 350,000 tons to 750,000 tons per annum. Subsequent to the year-end the Sovereign Coal Group Inc. of Bluefield, West Virginia and its subsidiary company, Harman Mining Corporation of Harman, Virginia were acquired. The total cost of this acquisition was US\$152 million for coal assets worth USS95 million and excess working capital of USS57 million, part of which was used to fund the purchase; the balance was financed by the issue of 18-month instalment notes. The facilities acquired include two long-established coal properties, Harman and Sovereign-Majestic, and two coal preparation plants. Annual output at the current production rate is 1.9 million tons of premium coking and steam coal. Steps are being taken to increase production to the rate of 2.25 million tons per annum. Both Bailey Mining and the Sovereign mines will be managed from the recently established headquarters of Inspiration Coal Inc. located in Knoxville, Tennessee.

Inspiration Consolidated Copper (ICC) incurred losses of US\$17.7 million in 1980 as a result of production problems and the industry-wide strike which shut down operations for 115 days. Production levels and operating efficiencies have improved significantly in 1981 although the company continues to record losses as a result of low copper prices. The major capital expenditure programme has proceeded well with the successful introduction of the ferric cure leach process and the completion of the concentrator modernisation and the rehabilitation of the tankhouse. The major effort in the balance of 1981 and in 1982 will be in relation to the smelter. As part of the financing programme, Minorco and HBM&S each contributed additional capital of US\$5.9 million up to the end of June 1981.

Anglo American Corporation do Brasil Limitada, the vehicle through which Minorco invests in Brazil, had a satisfactory year highlighted by the declaration of its first dividend.

The high level of investment activity during the year contributed to a decline in working capital of some US\$102.5 million and at the year-end the working capital deficiency of US\$77.5 million was funded in the main by short-term borrowings of US\$54.7 million. Consideration is being given to raising additional long-term finance from third parties in the near future, the proceeds of which will in part be utilised to repay short-term borrowings.

It is anticipated that earnings will advance significantly in the year ahead, primarily as a result of Minorco's share in the earnings of Gold Fields and Charter. The profitability of Minorco's principal investments will, however, be adversely affected by the ongoing recession in the world economy, accentuated by high interest rates in the USA, Canada and Europe and the increasing volatility of foreign exchange markets.

Minorco's investments in base metals, primarily in HBM&S, ICC and Zambia Copper Investments will not really prosper until there is a sustained improvement in the economic activity of the western industrialised nations and consequent increases in metal prices. The industrial interests of Minorco, represented principally by its investments in Engelhard Corporation, Gold Fields and Charter, are maintaining their profitability most satisfactorily in difficult trading conditions. The earnings of Phibro have declined significantly from the record levels of 1980 reflecting narrowing margins: the nature of Phibro's business as international marketers and traders in a comprehensive range of raw materials, however, gives it considerable resilience even in relatively depressed markets. Phibro's acquisition of Salomon Brothers should greatly extend and enhance its trading activities. Gold Fields' earnings will be adversely affected by the reduction in the gold price but the spread of the company's activities should enable it to maintain satisfactory results.

Copies of the chairman's letter, and the report and accounts are obtainable from the office of the United Kingdom Transfer Secretaries, Charter Consolidated Limited, P.O. Box 102, Charter House, Park Street, Ashford, Kent TN24 &EQ.

BUILDING AND CIVIL ENGINEERING

£20m project at

BOSKALIS WESTMINSTER has 200 aircraft shelters with steel received a £20m prestigious archliners and associated com-Property Services Agency con-ponents, with a reinforced contract for the airfield survival measures work at RAF Wattisham, near Ipswich,

The Merseyside-based company will execute the work for Boskalis Construction by which says the contract represents a opportunity for boosting labour in the construc-

tion industry. Involved in the project are crete hardening over the arch-

Mechanical and electrical services are also included as are the associated aprons and taxi-

Provision of headquarters and ancillary buildings will cater for personnel needs and general services, and relevant infraworks are structure

New orders worth RAF Wattisham £9m to R M Douglas

together worth more than £9m, the largest of which is a £4.2m superstore and multi-storey car park at Bishop Auckland for Fine Fare.

Work involves the construction of a reinforced concrete store and self-contained shop units together with roof car parking plus an integral multistorey car park on two levels. There will also be fitting out (excepting refrigeration and

RECENT PROJECTS won by internal shop fitting) which will R. M. Douglas Construction are be carried out by the client as together worth more than £9m, direct contracts. Offices for Townsend Thoresen Properties bring in

another Ellim and comprise a five-storey building with reinforced concrete frame, upper floors and roof with blockwork external walls.

Two blocks of industrial units for public authorities and at Hendon for Slough Estates

Design and Construction make clients in South Water and up a £1m deal. The buildings north east and Scoffand



with asbestus roofing ding, include integral to external works.
Other new work covers civil engineering and building was

Tarmac takes over £6m

BIGGEST JOB in work worth ground and first films offices for fifth just won by Tarmac is an the Scottish Life Assurance college for the Trustees Holland Hannen and Chairs Savings Bank Central Exam at SW is to install cash discenses Creynolds Lane Shirley, in the south west for the

maintenance bay for NMT Properties at Rotherham.

Tarmac Schal has £701,000 ways Board. Tarmac Schai has £701,000 ways board.

for building corporate head. Other schemes include new
quarters for Barclays Bank at car parking facilities at Waver.

Lothian is worth £374,350; also in Scotland is over £1m's worth for Distillers Co's new offices

Bank + (£250,000) Midland Another regional job, worth Cubitts General Contracts in £1.7m, is for a single storey over £200,000's worth for warehouse unit, office block and movating staircases and materials. novating staircases and pint forms at Barbican and Ferring don Stations for British Rail

Tunbridge Wells. tree, Liverpool, for the north west region of British Gas a tion UK at Livingstone, West supermarket for Kwik Save Hiscount in West Glaugorgan a pedestrian footbridge in the or Distillers Co's new offices

Midlothian.

At Birmingham, refurbishing

Halifax Building Society office.

Variety for Wimpey

CONSTRUCTION OF Phase 3 of ing will be mostly single singly of Greenwich awards £2.8m to Wimpey Construction which will carry out the work (some 21,500 sq metres of roadway 730 metres long) under the supervision of the Borough's

Associated Dairies of Leeds has placed a £2,2m contract for a superstore and shop units in Normanby Road, South Bank, near Middlesbrough in Cleveland. A total of 62,500 sq ft of store will give a selling area department of 43,000 sq ft, and the build parking.

the Greenwich peninsula link with mezzanine floor to plant road for the London Borough room and part of the ware house. Construction is of steel frame on concrete pad and beam foundation.

The company's Lation office has received a £2m contract from Laing Management Contracting for work on the Gratton Centre Project in Cambridge, part of which comprises con crete foundations and the concrete frame superstructure for a 140 x 60 metre, two stores department store with roof too

Mixed bag for F. Clay

be undertaken by F. Clay and Council for Wales. Sons (Contractors) in carrying out a series of new contracts which together have a value of more than £34m.

deal worth £270,000 covers repairs and renovations to More for existing listed buildingexisting usten butter house, bridge, moat; stable Manston house; and car parking MEMBER OF the Espley-Tyas facilities.

Extensions to Barclays Bank at Hanley will cost £290,000. These cover demolition of existing adjoining shop premises and erection of a two stores extension to existing premises and alterations within the existing bank. The company will erect 21

dwellings at Cambridge Drive for the Borough of Newcastlehas been obtained for a wholeunder-Lyme technical services Earthworks department. Value of the work Landon AND is £340,000 which takes in ser- LONDON AND sale cash and carry complex totaling 1100,000 sq ft, pre-let to vices and external works.

Major scheme in the overall The development will be total is a £1.6m contract at well (Contractors), has been undertaken on land previously Griffiths Crossing Caernarfon— awarded a £3m-plus earthworks owned by the Gas Board and is the erection of second phase to contract for the AlO-Mil second-complete the National Outdoor tion of the M25 London Orbital Pursuits Centre building and Road.

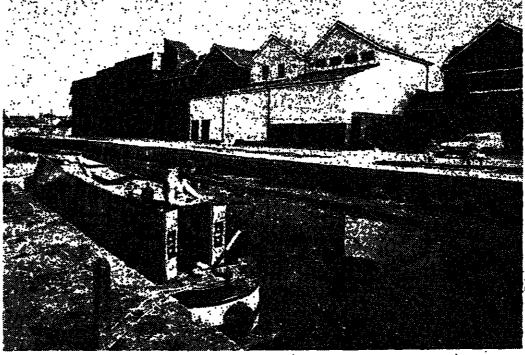
A WIDE range of activities will associated works for the Sports At Cannock, Staffordshire, the company will erect two-

bedroom, three-person bunga-lows in traditional construction with outbuildings and external At Baddesley Clinton, works for Cannock Chase Warwickshire, a National Trust District Council:

Property Group plc, Manston (Contractors), announces new work worth over £2.5m.

The company has already commenced the construction of 150,000 feet of industrial and retail accommodation on Wellington Street, Leeds, for Countyeross. This forms part of a major development lying betwen the Yorkshire Post head-quarters and the City Station.

LONDON AND Northern Group's Essex-based earth moving specialist, C. A. Black; awarded a £3m-plus earthworks



Alongside the River Lea Navigation Canal in Hertford the first stores are now opening and trading at Costain Property Developments' £3m town centre redevelopment scheme Bircherley Green.

Designed as a traffic free area with modern shopping facilities (Waitrose, Boots, British Shoe Corporation, Hepworths and so on) the centre blends with the architectural character

It includes 12 shop units, six kiosk units fronting on to the main malls and precincts, a main store covering 26,000 sq ft, and a second large unit over 12,000 sq ft. New multi-storey car park takes 200 vehicles and incorporates a bus station. There is also provision for an open market area. Leslie Jones and Partners are the architects, the agents Bernard Thorpe and Partners and

Edward Erdman, quantity surveyors Monk Dunstone Associates and structural engineers R. J. Crocker and Partners. Costain Property Developments is now in partnership on the scheme with East Hertfordshire District Council which appointed the company after a competitive tender involving both

to be undertaken by Mowlem.

Much of the 19th century

£10m scheme £8m restorations A WELL-KNOWN facade over-looking Hyde Park near Marble and underpinned, and a new Arch is the Cadbury Schweppes reinforced concrete structure on

DUKA (part of Second London Wall) has placed a £10m con-tract with Costain Construction to build an hotel and office complex in Reading, Berksbire.

financial and design criteria.

Scheme covers a Ramada Hotel and separate office block in Oxford Road, and comprises the construction of the complex, lifts, mechanical and electrical and air conditioning installafinishings, suspended piazza, roadworks, landscaping and associated external works.

in Bahrain

TWO WORK TO be carried out for . the Arab Iron and Steel Company by John Howard and Company will provide full marine facilities for a 4m tonne per annum pelletizing

The construction of a deep water jetty and associated civil works is worth £8m to the British company which will create a piled jety approach 145 metres long, a piled jetty head 300 metres long by 35 metres wide and two piled dolphins.

All these structures will be decked with reinforced concrete and ancillary works embrace the installation of fenders, bollards and similar facilities and some work on the existing rock protection

Some 670 tubular steel piles—800mm and 100mm in diameter and up to 30 metres long-will be driven and 34,000 cubic mteres of concrete placed.

Engineer for the client is the Kuwait Engineering, Operation and Management Company (KENOMAC).

Howard, which has been established in Bahrain for the past 10 years, will make an immediate start on the pro-ject which is scheduled for completion in 16 months.

Work force boosted

announcement of new work

veek is valued at £2.5m and is for 16 advance factory units for East Kilbride Development Corporation. These vary in size from 540 square metres to 1,350 square metres, with a total floor for some time.

area of 17.070 square metres. Sir Robert McAlpine and area of 17,070 square metres. For Annandale and Eskdale District Council, the company houses replacing post-war pre-fabs on a site at Eastriggs, near Gretna. Value of the homes is £800,000.

Health Centres are being con-Health Board) and consist of a Allerton as reflecting the comtwo storey building each with surgeries and facilities for remedial and nursing care, with total value of £2m.

building's internal structure floor area of 7,870 sq mefres will be demolished, while and Mowlem says, all the offices certain "listed" rooms and and residential areas will be staircases will be retained. John Warehouse Major civils Mowlem A MAJOR warehouse scheme in north London is to be developed under a £3m contract announced by Hunting Gate which is to at Drax start work soon in Garman

group headquarters at six floors built within. The roof Connaught Place, London, W1, will be replaced and the facade

Operations include installation of services to provide air con-

ditioned offices and flats with a

Road, Tottenham, N.17.

goods.

nine months.

Outline planning permission

Clarke Stores (London), distri-

butor of chemist and household

which is to be revitalised under restored to its former glory.

an £8m refurbishment project Operations include installation

CONSTRUCTION contracts, together worth £24m, will be carried out at the new Drax power station near Selby, North Yorkshire, by John

Mowlem and Co.

A £11m scheme installs a one-km-long purge pipeline to draw water from the river Ouse and take it to sedimentation tanks. Acting as the main water feeder for the station's cooling tower, it will be 1.4 metres in diameter and laid in trench. The other fim's-worth consists of making modifications to Drax's existing control room while it continues in use. This involves new staff amenities, mess rooms and offices within the three-storey control room, and strengthening the existing roof in steel frame to allow new mechanical and electrical plant to be installed by other con-

Mowlem Arm in U.S. IN LINE with its declared policy at the time of its recent rights issue "to seek further acquisition opportunities in areas related to existing business" the Mowlem Group has agreed to acquire another U.S. company for its MEP engineering products subsidiary.

This is CPN Corporation (Campbell Pacific Nuclear), a California-based company making and selling instruments based on advanced nuclear technology with micro-processors most of which are used in construction and agritechnology culture for moisture and density testing.

ensuring EMPLOYMENT for around 170 people during the next 18 months is Whatlings' **Allerton**

worth over £5m.

The Scottish based company's subsidiary, Whatlings (Building) says its largest deal this signify the first real expansion signify the first real expansion experienced by the company during the current recession guarantee an active winter and says the company, the first serious increase in employment

Sons has subcontracted Allerton to design, supply and erect all is to build 39 local authority structural steelwork for "Project Dreadnought"—a new fac-tory and offices for Vickers at Newcastle upon Tyne. Similar work from SETE

Consultants and Services is for structed at Easterhouse and a new refinery complex in Govanhill (for Greater Glasgow Saudi Arabia. This is seen by pany's continued ability to suc-cessfully compete for major steel fabrication contracts contracts throughout the world.



it's no accident that Sparrows are around today to serve the building, civil engineering, off-shore, petrochemical and allied industries. Years ago we made a series of commit-

ments to the market which ensured that however difficult trading conditions became, they could still call on our One such decision was to travel

far and fast to turn ourselves into truly international lifting specialists, which is why we have business out of depots as far afield as Houston (Texas) and Al Khobar (Saudi Arabia) and a joint venture with Montalev (France) to spread the load when work is hard to find at home.

It wasn't just a matter of getting heavy equipment to wherever it was needed almost anywhere in the World. We had to gear ourselves up to handle shipping insurance, legal financial and other transactions - and we had to supply the men whose expertise is the key to the whole operation.

It was a hard sweat at the time, but It's paying off today because we are now highly experienced in sending our fleets abroad and that must be good have not: only for us but for international customers.

But you don't have to travel far and
wide to find out more about our services. both at home and abroad -as a first step, contact any of our depots:

EDITED BY ALAN CANE

A 20-year car for all seasons

HAS built and demon- are either bonded or bolted. al a small car in which the o corrosion is expected to give the car a life of some 20 years. There are no plans to produce the car, which has bonnet doors, roof and boot of special engineering plastics, fill—the late 1980s.

Tate 1980s. upon labour forces of both steel and car plants, and the accept-ability of plastics bodywork to

the car buying public.

Flat believes that as hydroearbon fuel costs continue to
rise in the coming two decades,
the prices of the kinds of
plastics used in the car will rise more slowly than that of steel, which uses much more energy in its production. The cost of these "high end" plastics reside much more in the processing than in the basic raw materials. The company believes that plastics will prove acceptable to the public on the basis of zero



corrosion alone, giving the car a sales edge as soon as it enters Mr P. Scolarl, who is director of research at Flat, set three main objectives for the development car.

-- Apart - from simplifying assembly operations on the line," he said, "we wanted to reduce the weight to improve fuel consumption and make the car more durable through the anti-corrusion properties of the

In fact, a 10 per cent weight reduction has been achieved, yielding 6 to 7 per cent improve-ment in consumption.

Fiat has already been using 15 per cent by weight of plastics in its cars-more than any other European manufacturer. In the new car, known as VSS (the initial letters of the Italian for " experimental sub-system car"), the percentage has been pushed

This cage of formed steel meani plastes content has sheet provides basic strength a begin nearly doubled. The that it can then be "dressed" resulting increased resistance with plastics front section sheet provides basic strength so with plastics front section, doors, hoot and roof to give a number of body style options from the same assembly line.

When it comes to model restyling, even if major alterations are involved, the front Several factors will influence sides can be changed without the decision, including the relative for cost of the overall plastic and steel approaches (materials obviating additional tooling and terimiques)—the effect costs. In addition, the plastics section, Tear, and even the body sides can be changed without obviating additional tooling costs. In addition, the plastics materials allow styling shapes that are difficult to achieve in sheet steel.

The new car is the "plastic" equivalent of Fiat's Ritmo model; a small car was chosen because of the added significance of weight compared with larger vehicles. All the components have been designed using CAD techniques with finite element analysis and a variety of materials has been empioved.

For example, the front end of the vehicle is constructed in polycarbonate which Fiat says will deform in the event of limited impact without incurring permanent damage.

elements usually make up the engine compartment: an outer bonnet skin, inner bonnet structure and the two wings. On the VSS the four parts have been combined into one moulding which also includes the air scoop. The material is a polyester resin reinforced with glass fibre; thickness is 3 mm. weight has been reduced to 12 kg, compared with over 17 kg for a similar unit from

For the doors, unsaturated polyester (SMC) has been used. This is a somewhat more flexible material (over three times the flexural modulus of polycarbonate); it also has more tensile strength and is less likely to elongate under load. Each door is moulded in two half shells, bonded at the edge, and a steel inner cross member is built in to give more strength and provide suitable fixing for hinges and window winders.

At the rear end polycarbonate is again employed for boot floor, rear cross member and bumper, giving rear impact absorption. up to 26.2. The rear hatch however, is

Basis of the car's construction made from SMC, bonded to the
tion is a box section frame to window to give torsional
which the plastics components stability.

following purposes:-

of the Auditors thereon

To elect the following Directors: Tun Tan Siew Sin S.S.M., J.P.

Michael Wong Pakshong

AS SPECIAL BUSINESS

as an ordinary resolution:

benefit of the Company.

ORDINARY RESOLUTION

Sime Darby Berhad

NOTICE OF MEETING

NOTICE IS HEREBY GIVEN that the Third Annual General Meeting of Sime Darby

Bethad will be held at the Regent Ballroom, The Regent of Kuala Lumpur Hotel, Jalan Imbi, Kuala Lumpur, Malaysia on Thursday, 5th November 1981 at 11.30 a.m. for the

To receive and adopt the Report of the Directors and the

Accounts for the year ended 30th June 1981 and the Report

To declare a final dividend for the year ended 30th June 1981

Tan Sri Taih bin Haji Andak P.M.N., S.M.J., S.P.M.J.

To re-appoint Price Waterhouse & Co. as auditors of the Com-

pany and to authorise the Directors to fix their remuneration

To consider and, if thought fit, pass the following resolution

That the Company capitalise the sum of \$71,927,866, being

part of the balance standing to the credit of the Capital

Reserve Account and, accordingly, that the Directors be authorised and directed to appropriate such sum to the sharehelders registered on the Registers of the Company as at the close of business on 22nd October 1981 in proportion to the

numbers of shares then held by them respectively and to apply such sums on their behalf in paying up in full at par

143,855,732 unisseed shares of 50 cents each in the capital

of the Company, such shares to be allotted and distributed,

credited as fully paid to such shareholders in the proportion of one such share for every four shares then held, and that such shares will not participate in the final dividend to be

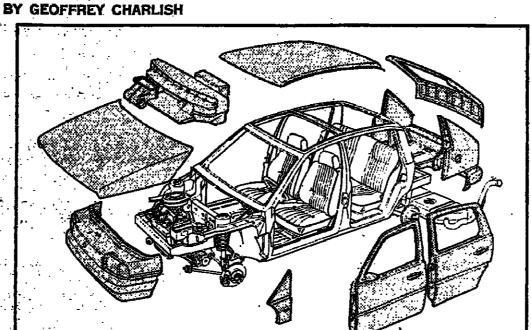
paid on 20th November 1981 but otherwise shall rank pari passu in all respects with the existing shares of the Company,

and that the Directors be authorised to dispose of any frac-

tions arising from this issue and to use the proceeds for the

Any member of the Company entitled to ettend and vote at this meeting is also entitled to appoint

one or more proxies to attend and vote in his stead. A proxy need not be a member of the Company.



FIAT'S "plastic" development car, the VSS, showing how the moulded plastic parts (shaded), are prepared off-line and then bolted or bonded to a steel "cage,"

can be built separately and sent complete to the final assembly line where they could be put together by robotics using boiting or bonding.

The parts can be painted separately, or pre-pigmented plastics can be employed. Alternatively, the car can be assembled and painting carried assembled and painting carried With the steel cage zinc prove to be Fiat's main head-out on complete bodies before coated there is nothing in the ache.

mechanical units are assembled. Welding is greatly reduced, being necessary only on the steel cage. The number of welds has dropped from 3,000 to 1,800 compared with the Ritmo. Assembling the car takes five

With improved fuel consumption from lower weight, and the added bonus of natural sound deadening of plastic panels as opposed to steel, the car when it comes to the market should create considerable interest. It is the radical re-organisa-

bours less than the all-steel tion of production that may

Stroke of a key and a VDU keeps the form buyer in the picture

designs at the stroke of a key,"

ComputerComp said.

A NEW and faster method of reverse headings, screens and emerged through the adaptation of computer typesetting equip-ment. It is being offered by ComputerComp, a Birmingham company which is a subsidiary of Standard Continuous, a business forms specialist.

The equipment, developed by Xenotron a British company, in conjunction with Computer the Xenotron equipment meets
Comp, can be used on the all the demands of modern
"front end" of most computer business form production." type setting equipment, such as the Lasercomp System manufactured by the Monotoype Corporation of the U.S.

difficult, such as round corners, concerned.

The forms are drawn up on a visual display unit, allowing a customer to be closely involved with design of he wishes, par-has ticularly if there are complex "Everything that been traditionally regarded as aspects of the business form

(Resolution 1)

(Resolution 2)

(Resolution 3) (Resolution 4)

(Resolution 5)

(Resolution 6)

(Resolution 7)

Mr Wall pointed out that inproducing business forms has tints, can now be included in creasing numbers of companies sought more distinctive forms invoicing, remittance

Mr Tony Wall, the company's advance and other purposes. The service offered is a managing director, said he had forms design and setting been closely involved with operation incorporating, at no Xenotron in the final stages of extra cost, any of the features associated with the new style software development. He said: "This helped to ensure that of forms appearing in industry, Mr Wall said.

Form origination is about to undergo a dramatic and long overdue change, Standard Contimuous believes. It considers the new development to be the most significant innovation the trade has seen for several years. We are, therefore, investing heavily in this new concept,"

Brush engine test cells

UP TO one third savings in overall costs are claimed by the control gear division of Brush Electrical Machines for its which it is starting to market. This follows its success with regenerative dynamometer that combines accurate, fast testing with a significant degree of energy re-

The engine to be tested is put on a trolley outside the cell and fuel, lubricating oil and cooling water are connected through a matchplate, to which a flywheel adaptor is fitted.

The trolley is pushed into the cell and presented to the end of the bed plate. It en-gages with a hydraulic piston that draws the trolley into complete engagement with the dynamometer, to which it is connected automatically.

sush is one of the few, if not the only company making floor - mounted regenerative dynamometers as distinct from the more conventional swinging frame dynamometer. It can now offer turnkey packages to include all mechanical handling and in-cell services.

A microprocessor can control the test cycle, monitor engine parameters during tests and re-cord results. The lubrication system has a quickly replace-able filter to deal with oil contaminantion from new engines. The microprocessor automatically meters the fuel and a smoke measuring device is attached to the exhaust system. More from Brush Electrical Machines, PO Box 18, Lough-borough, Leicestershire.

Portescap

micromotors

PORTESCAP UK has announced two new 35 mm micro-motors. Basic models are the Faulhaber 3558 and 3541, each available at four standard volt-

Portescap claims that both models cost about 20 per cent less than present 35 mm diameter units. The cost reduction has been achieved without any sacrifice in performance by using improved production techniques and sintered sleeve bear-ings. More on 0734 861485.

Toggle-action

3-way bolt

DESIGNED for doors, panels flaps, bonnets and hatches, the three-way Protex Catchbolt has a toggle action which pulls a spring-loaded bolt into the keeper. The tapered nose of the bolt engages under a claw to give a " pull down " at the finish of the closing movement. Protex Fasteners (Redditch.

Words., 0527 63231) says that the fastener is available in mild or stainless steel with safety catch or padlock.

Have a happy day in your talking lift

RESEARCH HAS shown that car-operating panel. This can one in two people have one flash the FT index, time, phobia or another that is weather, news information and heightened when riding in any number of custom advertis-

tor Company. easons why its new Elevonic to the physically handicapped. 401 has incorporated speech synthesis-in essence, taught tons no more than 54 inches miniature semiconductor chips

Apart from safety messages, such as "Please stand clear of the closing doors," or "This elevator is needed for an emergency, please exit when the vice "- characteristic is avail-doors open," and "Do not be able, and when activated in a alarmed, we are experiencing a crisis the lift returns to the temporary power interruption." main lobby floor where it—the lift can wish travelless a remains with the doors open. happy day, give them a weather check and reminder to go back and retrieve an umbrella, or inform them that they're running five minutes late.

Transatlantic

A supreme advantage for the blind using the lift on their own is that they have the vocal confirmation of the floor number announcement.

A male voice is used in the system because it is claimed that its lower tones are more easily heard by persons with hearing difficulties, and it is assumed that the male voice range is less complicated than a female voice range to reproduce, claims Otis.

The voice is, of course, totally transattantic (which confused English users of the first speak and spell electronic toy). However, when the new product has been distributed worldwide its talking chip will communicate in any tongue or language to fit its permanent home, and can then also be programmed to make any announcements. relevant to its role in hotels, apartment blocks, office complexes, department stores, and

so on Another operating fixture transforms the lift into a visual information centre. This is a 16-character, segmented alpha-numeric digital-display system built into the Elevonic's angled

passenger lifts, says Otis Eleva- ing or public service messages.

The new control panel has This is just one of the also been designed as an aid With all controls and floor butminiature semiconductor chips from the floor of the lift, wheel-to talk reassuringly to lift chair-bound passengers have users.

Apart from safety messages easy access to what Otis describes as more readable buttons and tactile markings.

A "special emergency ser-Otis claims that its latest machine is the most advanced lift control system yet produced for prestige offices and

efficient lift service—up to 25 per cent less waiting time. The Elevanic promises more reliability (aerospace compopents pre-aged and computer tested) its built-in diagnostic meaning quicker "trouble-shoot-

notels complexes, offering more

ing" and easier adjustment. Other significant benefits are energy savings of up to 30 per cent and new ergonometric controls giving passenger comfort and security, specifically cater-ing for the handicapped, and optional security modules which

restrict access to selected floors. Previously, lift modifications to solve the problems of one group of users were frequently perceived as an inconvenience

to another group.
Otis says that its new design package with its basic functions meets the needs of all groups, making an important contribution with the innovatory visual information display and speech capability that help to eradicate the traumas of lift travel and, actually, make an elevator trip

safer than a run up the stairs. More technical information from Otis in the UK at 43, Clapham Road, London, SW9 (01-735 9131).

DEBORAH PICKERING

Technology

Surrey University satellite

Atlas Copco

Compressed

SURREY University's UOSAT satellite, after several NASA caused delays, is now in orbit. Although the launch was successful, there were some telemetry problems in the first three orbits. These were corrected and strong sig-

nals are now being received. The satellite is in a rather complex tumbling motion in a polar orbit at a height of about 330 miles. It is revolving about four times a kinute but the university is hoping to stabilise the attitude.

Inundated

The university says that since the launch its switchboard (0483 71281) has been inundated with calls from amateurs and schools wanting more information. But it will be about three to four weeks before the television camera is switched on.

With an orbital period of 95 minutes, advancing by nine minutes on each pass, the satellite is transmitting for Britain at 13.13 and 14.45 hours in daylight.

At present telemetry is on 300 Baud on ASCII for amateurs and schools interested in text format transmissions. MAX COMMANDER

Anglo American Investment Trust Limited

(incorporated in the Republic of South Africa) INTERIM RESULTS FOR THE SIX MONTHS ENDED SEPTEMBER 30 1981 With reference to the interim report advertised on Friday, 9th October, 1981 attention is drawn to the corrected tabulation of note 3 below:

3. Particulars of the investment in the listed associated company, De Beers Consolidated Mines Limited, are as follows:

30.9.80 31.3.81 R000 R000 Market value Carrying value Appreciation

enhams Limited

Unaudited Results for the 28 weeks to 15th August, 1981

	28 weeks	28 weeks	52 weeks
	to 15th	to 16th	to 31st
and the second of the second o	August	August	January
and the state of t	1981	. 1980	1981
	£'000	£′000	£'000
HISTORIC COST	007 004	. 050 400	T00 444
Sales (including VAT)	<u>307,821</u>	<u>258,468</u>	<u>582,111</u>
Trading profit	2,892	3,820	24,633
Cost of finance	(1,784)	(2,640)	(4,362)
Trading profit after cost of finance	1,108	1,180	20,271
Other items	.,	.,	4,744
•	1 1 0 0	1 100	
Profit before taxation	1,108	1,180	25,015
Taxation	(1,345)	(1,215)	(3,802)
(Loss)/profit after taxation	(237)	(35)	21,213
Preference dividends	(43)	(43)	(86)
(Loss)/profit attributable to			 -
ordinary shareholders	(280)	(78)	21,127
	(0.2p)		15.8p
Earnings per share Earnings per share on nil	(0.20)		10.05
distribution basis	0.7p	q8.0	18.4p
	0.1 p	O.Op	толтр
CURRENT COST			
Current cost operating profit/(loss)	767	(1,337)	17,639
Cost of finance	(1,784)	(2,640)	(4,362)
Gearing adjustment	442	1,346	1,666
Other items		- —	526
Current cost (loss)/profit before	-		
taxation	: (575)	(2,631)	15,469
Earnings per share	(0.4p)	(2.8p)	8.7p
Madana			

1. Other items' which include profits on disposal of properties, the cost of business closures, redundancies and other non-trading items are dealt with in the annual accounts.

2. Taxation represents advance corporation tax and unrecovered overseas

The Group achieved an encouraging increase However, the Board does not consider that in sales of 19% over the comparable period in 1980 despite difficult trading conditions. In historic cost terms the profit before taxation amounted to £1_108 million (1980 £1.180 million); however current cost results showed some improvement.

As is customary, a high proportion of the year's profit is earned during the Christmas period, consequently the profits for the first half year do not necessarily reflect the likely outcome for the year as a whole.

an increase in consumer spending is likely in the months ahead, particularly with interest rates at their current high level. Accordingly, positive steps have been taken to reduce costs further and improve efficiency.

The Directors have declared a net interim dividend of 2.04117p per share (the same as last year), amounting to £2,729,644 (1980 £2,727,814) payable on 4th December 1981 to shareholders on the register on 5th November 1981.

Public Works Loan Board rates Effective October 18 Quota loans repaid

12th October 1981

17 17 17 17 Over 8, up to 9 ... Over 2, up to 10...

LOCAL AUTHORITY BOND TABLE

By Order of the Board WONG TET ONN

Company Secretary

	Annual '	Interes	t ·	Life
Authority	gross	pay-	Minimur	n of
(telephone number in	interest	able	sum	bond
parentheses)				·
And the state of t	- %			Year
Knowsley (061-548 6555)	144	₹ year	1,000	1-3
Wyre Forest DC (0562 3914).	. 14 1] -year	5,000	6-10

THE SOCIALIST PEOPLE'S LIBYAN ARAB JAMAHIRIYA

MUNICIPALITY OF BENGHAZI

BENGHAZI MAIN DRAINAGE PROJECT

PHASE 2 CONTRACTS

INVITATION OF TENDERS FOR CONTRACT 200A (2)

The People's Committee enced companies for contract

Municipality of Benghazi invites tenders from experi-(2) of the Benghazi Main Drainage Project.

The work to be executed:

- his contract is generally as follows:-Construction of appromisely 24 km of foul and stormwater sewers, lateral and
- gully connections ranging from 150 mm to 2,000 mm diameter. Construction of approximately 3 km of pumping main ranging from 300 mm
- diameter to 1,600 mm diameter. Construction of manholes, gullies, inspection chambers and ancillary chambers.
- Construction of pumping station GT13 approximately 17.0 m x 11.0 m x 10.3 m deep together with associated generator house and gate house on piled foundations, chambers and site works.
- Construction of pumping station SW11 approximately 19.0 m x 11.0 m x 11.0 m
- Construction of pumping station 8.3 m deep together with associated generator house and gate house on piled foundations, chambers and site works.
- Supply and installation of all pumping plant and screening equipment at pumping station GT7, GT13 and SW11 together with all electrical installations and control
- Supply and installation of standby generators at the two generator houses together with all associated equipment.

Documents for the submission of tenders, comprising conditions of tender.

Conditions of contract

General specification, form of tender, particular specification, geotechnical appreciation, bill of quantities and drawings may be obtained from the tenders section of the Municipality of Benghazi on payment of LD 200 Libyan Dinars which shall not be refunded to the tenderer. Tenders shall be addressed to: The Secretary of the Central Tenders Committee, Benghazi.

Tenders shall be enclosed in a sealed package marked: Tender for Benghazi Main Drainage Project — Phase 2 — Contract 200A (2).

The package shall bear no name or other mark indicating the sender. A covering letter mentioning the contents of the sealed package shall be attached to the tender, and any tender submitted without such covering letter will not be considered. When submitting a tender the tenderer shall provide a preliminary guarantee deposit in the sum of LD 10,000 Libyan Dinars which will be refunded to the tenderer if his tender is not

The tender shall be valid and binding for a period of six months from the date of opening of the tenders. Tenders shall be delivered as above at or before 12.00 noon on 12th December, 1981.

CENTRAL TENDERS COMMITTEE FOR BENGHAZI MUNICIPALITY

THE SOCIALIST PEOPLE'S LIBYAN ARAB JAMAHIRIYA

MUNICIPALITY OF BENGHAZI

BENGHAZI MAIN DRAINAGE PROJECT

PHASE 2 CONTRACTS

INVITATION FOR TENDERS FOR **CONTRACT 204A**

The People's Committee for the Municipality of Benghazi

Benghazi Main Drainage Project

The work to be executed under this contract is generally as follows:—

- Construction of approximately 82 km of foul and stormwater sewers. Lateral and gully connections ranging from 150 mm diameter to 1,300 mm diameter.
- Construction of manholes, gullies, inspection chambers and ancillary chambers.
- Construction of pumping station GT2 approximately 23. 0m x 14.5 m x 9.0 m deep together with associated generator house and gate house, chambers and site
- Supply and installation of all pumping plant at pumping station GT2 together with all electrical installations and control gear.
- Supply and installation of standby generator at the generator house together with all associated equipment.

Documents for the submission of tenders, comprising conditions of tender.

Conditions of Tender

Conditions of contract, general specification, form of tender, particular specification, geotechnical appreciation, bills of quantities and drawings may be obtained from the tenders section of the Municipality of Benghazi on payment of LD 200 Libyan Dinars which shall not be refunded to the tenderer. Tenders shall be addressed to: The Secretary of the Central Tenders Committee, Benghazi.

Tenders shall be enclosed in a sealed package marked: "Tender for Benghazi Main Drainage — Phase 2 — Contract 204A."

A covering letter stating the contents of the sealed package shall be attached to the tender, and any tender submitted without such covering letter will not be considered. When submitting a tender the tenderer shall provide a preliminary guarantee deposit in the sum of LD 10,000 Libyan Dinars which will be refunded to the tenderer if his tender is not

The tender shall be valid and binding for a period of six months from the date of opening of the tenders. The tenders shall be delivered as above at or before 12.00 noon on 12th December, 1981.

CENTRAL TENDERS COMMITTEE FOR BENGHAZI MUNICIPALITY

BOTSWANA POWER CORPORATION

Morupule Power Project

The Government of Bottwans and the Botswana Power Corporation, have applied for finance from the International Bank for Reconstruction and Development, European Investment Bank, the Commonwealth Development Corporation, African Development Bank and other International Financing Agencies towards funding the construction of the Morupule Power Project and it is intended that such funds will be applied to contracts for which this invitation to prequalify is issued.

The project consists of a new 3 x 30 MW/coal-fired power station to be located immediately adjacent to an existing colliery at Morupule some 10 Km west of Palapye. and transmission lines with sub-stations to connect the new power station on the northern division at Serule and to the southern division at Gaborone, where a system control centre is also to be established. It is expected that separate bid documents will be issued in early 1982 to cover the various components of the project as under:

I. POWER STATION - ELECTRICAL AND MECHANICAL PLANT

3 p.f. boilers of approximately 150 tonnes/hour and ancillary equipment

(b) Turbine Generators

Three 30 MW turbine generators with associated auxiliaries and turbine house crane

Three air-cooled condensers each capable of condensing the steam from one 30 MW turbine

(g) General Electrical

(d) Water Treatment A water treatment plant to delonise water for

the above boiler plant

(e) Coal, ash and dust handling plant (f) Gas turbine

Power Station Services

ENGINEERING & BUILDING WORKS (a) Civil Works Construction of a composite reinforced

2. POWER STATION - CIVIL

concrete and steel-framed turbine house, a similarly structured administration and amenity block, foundations for turboalternator, boilers conveyor and coal handling systems and switchyard equipment. Major foundations will be piled.

(b) Chimney Construction of a single reinforced concrete chimney approximately 100 m high including foundations

3. TRANSMISSION

(a) Switchgear Equipment for 220 kV switchyards at Morupule, Serule and Gaborone (b) Transformers

220/33 kV and 220/132 kV transformers. reactors and associated control equipment for the switchyards at Morupule and Gaborone (c) Power Line Carrier Equipment

(d) System Control and Data Acquisition for the Control Centre

(e) Overhead Transmission Line Rouce surveys and clearances, design and fabrication, erection of about 350 km of 220 kV single circuit overhead transmission

4. TRANSMISSION — CIVIL ENGINEERING AND BUILDING WORKS (a) Sub-stations Complete civil works for the sub-stations at

(b) System Control Centre Building Pre-qualification is required and details of recent relevant experience together with latest audited accounts should be submitted so as to reach Consulting Engineers at the address hereunder as soon as possible but not later than 18 December 1981:

KENNEDY & DONKIN Chatsworth House, 19 Lever Street Manchester M1 3LT, United Kingdom

YEMEN ARAB REPUBLIC **Ministry of Electricity and Water Computer Installation**

The Ministry of Electricity and Water will shortly invite tenders for the supply, installation and maintenance of a Computer Installation to be used for the preparation of electricity and water consumers' accounts, general accounting, management information and payroll preparation.

Firms wishing to be considered for an invitation to tender are requested to apply for prequalification. They should send details of their experience of similar installations, the availability of programmes for the intended duties and other duties associated with an electricity and water utility, and give their proposals for providing adequate routine and breakdown maintenance.

It is expected that the contract will include both hardware (including environmental plant), software and training. Applications must be made within one month of the publication of this advertisement to: The Ministry of Electricity and Water, Box 178, Sana'a, Yemen Arab

The sending of an application should be confirmed by Telex to number 2275 YE. Quoting reference contract no.

INVITATION TO BID

- The Maritime Bank (Denizcilik Bankasi T.A.O.) invites bids for the building and delivery of six (6) fibreglass (GRT) pilot boats having a service speed of 22 knots.
- Bidders to have long-standing experience in the building of this type of boat having the above specified speed.
- Tender documents for this inquiry may be purchased against the remittance of U.S. dollars fifty (US\$50) from the following address as from October 12, 1981:

Denizcilik Bankasi T.A.O. Genel Mudurluk Tersaneler Mudurlugu

Karakoy-Istanbul Turkey.

Latest submittal date for tenders is November 30, 1981. All inquiries may be obtained from our Telex

22221 DZB-TR, attention Tersaneler Mudurlugu.

INTERNATIONAL BIDDING

ELETRIFICAÇÃO RURAL DE SANTA CATÁRINA S/A-FRUSC, foreseeing a new phase in its project. is looking for manufacturers of machines, equipment and materials destined for installation of rural electrification in the State of electrification in the State of Santa Catarina - Brazil. Interested manufacturers

should write to R. Bocaiuva. No. 215 Florianopolis - SC -CEP 88.000 - Brazil.

INTERNATIONAL BIDDING

COTONIFICIO KÜRASHIKI
DO BRASIL LTDA., foreseeing
the enrargement of an industrial
unit located in Ponta Grossa PR. is interested in acquiring
machines and equipment for the
production of textile goods.

The purpose of the communication is to invite interested parties to present their proposals in writing to the following address: Rua Libero Badaro. 377 - 11 Andar, CEP 01009, Sao Paulo - SP. Brasil.

Auctioneers, Valuers and Estate Agents

ROSAN & COMPANY

144/150 LONDON ROAD, W. CROYDON Tel. 01 688 1123/4/5

By order of the joint Liquidators of Progress Paper Sales Ltd. The highest offer received by the joint liquidators to date for 13/15 Dockhead, London S.E.1 is £155,000 (one hundred and fifty-five thousand pounds) and the highest offer received by the joint liquidators for the property in Mill Street is £125,000 (one hundred and twenty five thousand pounds), both with vacant possession. The joint liquidators invite offers for both properties in excess of these amounts.

Any such offers should be in the form of a signed contract accompanied by a payment of 10% deposit and should be sent to Messrs. Wm. F. Prior & Co., Temple Bar House, 23/28 Fleet Street, London EC4Y 1AP (reference CRD)—01-353 3571 to reach them not later than twelve noon on the 19th October 1981.

It is the joint liquidators' intention to accept the best offers received for each of the properties in excess of the present offers. Copies of the form of contract which must be submitted in respect of each of the properties and defails of other matters relating to the properties can be obtained from Messrs. Wm. F. Prior or through Messrs. Resan & Company.

(Contracts and accompanying cheques relating to offers not accepted by the joint Liquidators will be returned by Messrs Wm. F. Prior & Co.)

COMPANY NOTICES

REPUBLIC

COSTA RICA

Floating rate note issue of US\$ 20 million April 1978/85 The rate of interest applicable for the country period beginning on six month period beginning on October 13th 1981, and set by the

reference agent is 17234% as

NOTICE TO HOLDERS OF EUROPEAN DEPOSITARY RECEIPTS (EDRS) IN RYOBI LIMITED, TOKYO

OBITUARY

LEGAL NOTICES

GORDON LAMES (REPAL PRODUCTS)

UNMITED

UNTICE IS HEREBY GIVEN, ourseen
to Section 233, of the Compenies ACL
1948, their a Meeting of the Oreditors of
the shows named Company will be left
it. And Floor. Eagles Seer House. 28.35.
Carver Street. Sheffledd, SI 4FS on
Theaday, the thirteenth day of October
1984, st ten of diock in the Joranout. for
the purposes mentioned in Seiting. 291.
294 and 295 of the said fact.
Detail this 20th day of September
1981.

FLY FIRST CLASS

PHONE ST JAMES'S TRAVEL 01-499 8173 (Air Agents)

OPEN ROAD MOTORING HOLIDAYS

ser 15 ft

المحلقة المعادر المحلوم المحادثة الإع

gas ^{fri}adiⁱ.

OPEN AN

TORNOR

	Companies and Markets	WORLD STO	CK MARKE	TS		
al and micers, or despet of the first of the	1987 1987 1988 1989	25	1134 834 Simplicity Patt 1014	1981 Low Stock 9	HOLLAND	Hong Kong 1981
GAL NOTE	eIndo sty'ls 873,90 878,14888,72688.28889,87 880.78 1024.05 824.01 1051.77 (2579) H'mb Bnda. 58.58 55.88 56.1655.78 55.70 56.42 83.78 54.39 (11/1/78 157.00) Transport. 571.28 575.07572.21367.05388.58 585.44 47.88 65.19 (25.9) (184.61 157.00) LINITION 104.18 104.27104.48103.19 105.04 102.27 177.81 (25.9) (184.61 157.28 185.39 100.00) TradingVoi 58,888 47.8 1050,08045,80051,290 64.549 (25.9) (23.9), (23.9	Cot. Cot.	AUSTRIA 1981	78.5 51. Lufthansa. 52 234.5 165.5 MAN 201.5 166 122.4 Mannesmann 150 328.5 220.0 Mercades Hig 317 337.6 282 Motaligassel 288 698 610.0 Muench Ruck 650 224 125.0 Preussag 209.9 181 162.8 Rhein West Elect 175.5 386 287.0 Rosenthal 322 311 219.5 Schering 280 269.0 222.8 Siemen 231.3 77.0 57.7 Thyssen 631.3 270.0 161.5 Varta 181 145.2 120.2 Veba 132 285.0 262 Verein West 256 180.0 125.7 Volkswagen 152.5 FRANCE 1981 Oct. 9 Fra 3.925; 2,188 Emprunt 44X 1976 2,317 10,950, 5,700 Emprunt 7% 1976, 7,100 3.289 2 665 CNE 3% 2,866 519 370 Air Liquide 484 1,275 560 Acquitains 731 126 83.8Au Printemps 185 588 390.0 BiG 751 1,000 537.0 Bourgues 12.2 136 1,233 858 BSN Gervas 1,065 1,898 1,515 Carrefour 1,658 525 356.0 Chub Mediter 489 480 236 Cie Gen Eaux 299 154.0 107.8 Collmeg 292 31.4 Greusot Loire 153.9 95 31.4 Greusot Loire 153.9 95 31.4 Greusot Loire 158.9 243.2 90.5 CFP 118,5 36.7 27.4 DNEL 55 36.7 12.4 DNEL 55	2.20 2.30 Reserve Collina 2.20 2.20 2.20 2.20 2.20 2.20 2.20 2.2	2.80 Protes Hidgs 5.35
FIRST CLAS	1981	1,875 1,155 1,155 366 366 366 366 367 17 32 SPAIN Madrid SE (60/12/89) 182,78 180,56 180,88 183,80 748,15 (8/5) 182,78 180,56 180,88 183,80 748,15 (8/5) 182,78 180,56 180,88 183,80 748,15 (8/5) 100,46 (2/1)	DENMARK 1981 Oct. 9 Price High Low 2 2 2 2 2 2 2 2 2	120 65	8,06 4.15 Santos. 5.48 1.95 1.12 Sleigh. 1.20 0.80 0.40 Southland M'n'g. 0.55 0.80 0.36 Spargos Expl. 0.36 2.70 2.22 Thos Natwids. 2.27 2.93 2.20 Tooth. 2.20 0.88 0.28 taliant Consct. 0.33 1.14 0.78 Waltons. 0.80 5.90 4.48 Western Mining. 4.72 3.35 1.22 Woodside Petrol. 1.32 2.30 1.65 Woolworths. 1.66 4.50 Normald Intl. 3.30	into a £50m-a-year business, Mr AI n Devereux Abairman of the Scottish Tourist Board, said at Kelso when he launched the first-ever "Glorious Tweed Festival," on Saturday. Mr Devereux, who switched on the floodlights at Floors

Oct. Oct. Ogt Oct. ·High Low Industrials 850.25 582.95 550.85 523.92 488.56 (27/5) Combined 511.84 512.68 510.24 309.45 675.28 (16/8) 310,21 (25/3) 285,87 (25/3) SWITZERLAND SwissBankCpn. (61/12/68) 280.5 259.7 255.10 255.00 TORGNTO, Composite 1951.5 1958.5 1988.7 1888.7 1888.8 (10/4) 1872.48 (25/8) WORLD Capital Intl. (1/1/76) NEW YORK ACTIVE STOCKS

Change
Change
Priday
Stocks Closing on
traded price, day
Traded price day

(**) Sat. Oct. 5: Japan Dow 7499.75 TSE 552,02 Base values of all indices are 100 except Australia All Ordinary and Matais—500; NYSE All Common—50; Standard and Poors—10; and Toronto—1,000; the last named based on 1976. † Excluding bonds. ‡400 industrials. § 400 industrials plus 40 Utilities, 40 Singucials and 20 Transports. a Closed. a Unavailable.

563,72: 556,03 551,02; 559,26 680,37 (TD/8)

- 142.8 142.7 140.4 162.8 (8/1)

High Low 5

133.0 115.8 Andelsbanken. 115.6 584 321.6 Baitica Skand. 355.4 132.2 118.0 CopHandelsbanki2.2 2 398.4 328.6 D. Sukkertab. 388.4 127.6 115.4 Danske Bank. 122.2 175.4 110.2 East Asiatic. 162 536 406 Forenede Brygg 490 332 240.0 Forenede Damp 328 2267.5 184.4 Jyske Bank. 167.2 180.0 137.4 Nord Kabel. 148 1,508 680.0 Novo Ind 1270 105.0 99.2 Papirfabrikker. 100 135.6 120.4 Privatbanken. 125.2 137.0 119 7rovinsbanken. 125.2 659.6 381 Serendsen 425 569.6 118 Superfoc. 167.4 109,46 (2/1) 404.17 (20/1) 248,5 (2/18) 155.8 (20/9)

64.0 49.5 Moulinex
 268
 168
 Paribas
 208,5

 106
 62.8 Pechiney
 91,7

 322,5
 238
 Pernod Ricard
 289

 186,5
 126
 Perrier
 166

 178
 112
 Peugeot-SA
 153

 206,0
 128
 Poolain
 165

 279,8
 187
 Radiotech
 188,5

 827
 44,00
 Redoute
 745
 111 45.5 Rhone-Poulenc ... 106.6 243 151.1 Roussel-Uclar ... 240 143.5 90.1 St. Gobain ... 134.5 640.0 385 Skis Rossignol ... 465 392.0 212 Suaz ... 309 1,228 955 Telemech Elect. 250 148 (Thomson Brandt 300 185,0 Valeo ... 185

67.6 SINGAPORE 1981 Oct. 9 Kigh Low 9.40 5.40 9.85 7,60 5.55 4.20 9.90 7,75 16.5 5.05 15.70 6.14

| 2.21 | Boustead Bhd | 2.44 | 2.98 | Cold Storage | 3.42 | 5.90 | DBS | 6.65 | 4.84 | Fraser & Neave | 4.74 | 4.65 | Malay Banking | 5.55 | 4.20 | Malay Banking | 5.55 | 5.55 | Malay Banking | 5.55 | 5.55 | 5.55 | Malay Banking | 5.55 | 5.55 | 5.55 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6.50 | 6

Mr Devereux, who switched on the floodlights at Floors Castle, Kelso, said the region already earned £16m a year from tourism, but this could be doubled or trebled if more people could be persuaded to stay instead of passing through. He said: "You have the opportunity of developing a 52-week season. The festival, which includes a salmon-fishing contest. lasts until October 24.

Malayan Tin shareholders approve MMC merger

SHAREHOLDERS of Malayan Tin Dredging voted over the weekend to approve the merger Malaysia Mining Corporation. shares will be listed from today holdings in MMC. in Kuala Lumpur, London and Singapore.

The new company, to be called Malaysia Mining Corporation Berhad, will control 38 the 55 tin dredges in Malaysia, and will produce some 17.700 tonnes of metal a year, or 23 per cent of the

the publicly-listed Ashton Min-ing, which in turn owns a 38 backing of nearly 2 ringgit per per cent stake in the giant share, Malayan Tin shares were Ashton diamond venture in Western Australia.

NZ smelter

project finds

new support

By Dai Hayward in Wellington

taking a share of the proposed

last week by Alusuisse to with-

Fletcher-Challenge which bolds

50 per cent of the project says

it has already received inquiries

from three companies interested

The proposed smelter, on

draw from the project.

in replacing Alusuusse.

major

THREE OVERSEAS companies L80bn (\$60m to \$69m), about have said they are interested in the same as the deficit of 1980.

NZ aiuminium smelter at Ara- managing director said the fore-moana following the decision cast results would be in line

which construction is set to start (LS5hn to L40hn to help finance

THE POUND SPOT AND FORWARD

1.8939-1.9200 1.9020 1.9020 0.07c pm-0.03 dia 0.13 0.17-0.27dis 2.2725-2.2550 2.2745-2.2755 0.50-0.70c dis -3.43 1.70-1.90dis 4.58-4.55 4.50-4.61 1.2-1c pm 2.50 4.3 pm 2.50 4

9-11lire dis

2½-1½ors pm 3.35-3.05y pm 10½-7½gro pm 1½-½c pm

1.8930-1.9200 1.9000-1.9020 0.07c pm-0.03c dis 0.13 0.17-0.27dis = 0.46 1.6160-1.6270 1.6160-1.6190 0.73-0.63c pm 5.04 1.42-1.27 pm 3.33 1.1968-1.1990 1.1987-1.1990 0.36-0.39c dis 3.78 0.76-0.79dis = 2.578 2.4200-2.4250 0.60-0.50c pm 2.73 2.28-2.18 pm 3.70

25-36c dis 1 10-1 35ore dis 0.81-0.76p? pm

ት-13c d)s 1.00-0.30ore pm

EURO-CURRENCY INTEREST RATES (Market closing Rates)

18-19 18-19 185a-19 185a-191a 185a-19

FT LONDON INTERBANK FIXING (11.00 a.m. OCTOBER 9)

bid 165/18 offer 167/18

157a-1618 16!8

House Deposits

1.80-1.65v pm

) UK and Ireland are quoted in U.S. cuttensy. Forward premiums and discounts apply to the U.S. dollar and not to the individual cuttency.

U.S. Dollar

Belgian rate is for convertible francs. Financial franc 76,90-77 00 Six-month forward dollar 0,56-0,66c dia. 12-month 1,00-1,25c dis.

THE DOLLAR SPOT AND FORWARD

2.2101-2.2121; 10.96-10.98

10.44-10.45 10 27-10.29 430-431

29.05-29.10 3.49-3.50

36.84-36.86

1.162¹2-1.164 5.7600-5.7700

7.0200-7.0500 7.0200-7.0200

226.20-228.60 226.45-226.55 15.284-15.37 15.304-15.314

hree months...

Overnight..... 2 days notice...

bid 168/16 offer 166/16

LONDON MONEY RATES

Under the deal, MTD will issue 238.8m new shares of 10 cents each to Permodalan proposed earlier this year with Nasional (Pernas), the Malaysian government investment The deal will create the world's agency, and Charter Consolilargest tin mining group, whose dated in exchange for their

> Pernas will end up holding 56 per cent of the new group, while Charter Consolidated will own 14 per cent. As a Bumiputra (ethnic Malay) company. MMC Berhad will enjoy a 5 per cent tax reduction for the next

year. or 23 per cent of the nation's tin output.

It will also have mining interests in Thailand. Nigeria and Australia, where it controls assets will exceed 1bn ringgit assets will exceed 1bn ringgit trading at 5.85 ringgit before their suspension last January.

Mr Corrado Innocenti, the

with " the gloomy conditions on

the world auto market and in

particular the European mar-

At the end of the month the

company will offer L5.5bn of

investment bonds, an innovation

has plans to offer more tranches

of the bonds to a total value of

next year, is estimated to cost! its investment programme.

NZ\$650m (U.S.\$544m).

Alfa intends to spend Sicilia.

Reuter adds: Raja Badrol Ahmad, MTD's chairman, told shareholders the new company would also have significant plantation and diamond exploration interests.

"The new group will be well placed in the tin industry, both on account of its position as one of the world's largest low-cost producers and in view of extensive new reserves that may become available in the future,"

The merger is seen as part of the Malaysian Government's new economic policy, aimed at giving Bumiputras a 30 per cent stake in the country's corporate wealth by 1990.

agreement to build cars in Italy

with Nissan Motor of Japan. The

company has also entered into a

joint venture in the component

sector with Fiat as part of its strategy to take advantage of

economies of scale and to offset

The company said that in-

terest on the new bonds would be guaranteed at more than 0.5

percentage points above the pre-

vailing three-month treasury

will serve as collateral for the

notes, which will be gauaranteed

hy Banca Nazionale del Lavoro.

growing competition.

Later this week major tin producing and consuming nations are due to meet in Kuala Lumpur to discuss future price policies for the metal.

Asahi Glass in Quebec

TOKYO - Asahi Glass Company has been asked by the Quebec Government to part in a joint venture to build a soda ash factory near the mouth of the St Lawrence River.

Asahi Glass, Japan's biggest

Japan produces about 1.36m tonnes of soda ash a year for pharmaceuticals, and other products from industrial salt imported from Australia, Mexico and China.

Advance by Bouygues in lesue to the state of the state

Group sales also rose by a similar amount to FFr 10.5bu, while the order book had proyear ago.

Bouygues is one of the largest of the numerous international French construction companies and has been expanding rapidly overseas in recent years.

first half

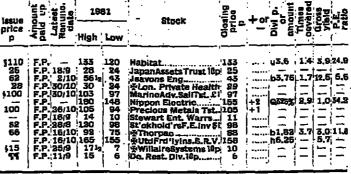
By Terry Dodsworth in Paris BOUYGUES, the French construction company, made net profits of FFr 85m (\$15m) in the first half of this year, an increase of 35 per cent on the same period of last year.

gressed to FFr 17.6bn by October 1 against FFr 9bn at the same time last year. The depreciation charge amounted to FFr 85m against FFr 68m a

In April it won a FFr 8.8bn contract to build a new university at Riyadh in Saudi Arabia in partnership with Blount of the U.S.

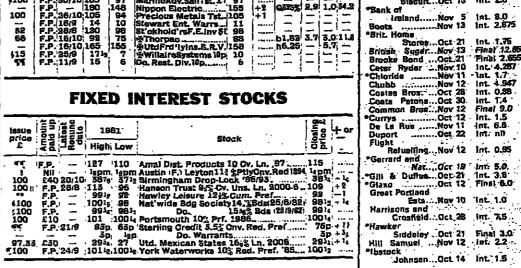
joint venture

glass manufacturer, will launch a feasibility study soon on the project, which is designed to produce 400,000 tonnes of soda ash annually for Canadian and Japanese consumption.

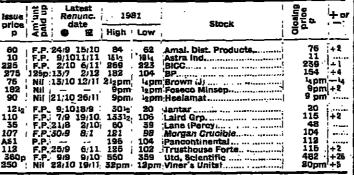


EQUITIES

FIXED INTEREST STOCKS



"RIGHTS" OFFERS



Renunciation date usually last day for dealing free of stamp duty. It figures based on prospectus estimate. It Assumed dividend and yield. It Forecast dividend: cover based on previous year's earnings. F Dividend and yield based on prospectus or other official estimate for 1981. Q Gross. T Figures assumed. It Cover allows for conversion of shares not now ranking for dividend or ranking only for restricted dividends. S Placing price. It Pence unless otherwise indicated. Stasued by tender. Offered to holders of ordinary shares as a "rights." Stated by way of capitalisation. SS Reintroduced. It Issued in connection with reorganisation, merger or takeover. It introduction. I issued to former preference holders. Allotment letters (or fully-paid). O Provisional or partly-paid allotment letters, * With warrants. It Deallings under special fluie. * Unlisted Securities Market. * London Listing. * Effective issue price after scrip. † Comprising 8 Ordinary and 3 Warrants.

TANKS CONSLD.

Societe Generale de Belgique announces that since midday on Thursday and up to midday yesterday it bought in the market at 450p, 28,500 ordinary units of Tanks Consolidated Investments.

FIRMIN DOWN

Although investment income was down slightly from £30,000 £22,000, taxable profits of Firmin and Sons, manufacture of badges, buttons and military ornaments, moved ahead to £195,000 for the first half of 1981,

Dates when some of the more important company divides Dates when some of the more important company divident statements may be expected in the next few weeks are strengly following table. The dates shown are those of the years announcements, except where the forthcoming point meeting (indicated thus") have been officially published. It should be emphasised that dividends to be declared will not necessarily be at the amounts in the column headed. Announcement last few.

Hepwin (1) Oct 30 for 30 Land Secs Mote 1 at 25 London Brick Oct 21 Jrn. 1736

*London and Northard Oct 28 for 13 Lucas Inds Nov 10 Finel 84 Marks and Spencer Oct 16 for 15 Motherche Oct 19 Jrn. 183 Mat. Bank Aust. Nov 13 Finel 9.56 Aust... Nov 13 Prost 9.5c Peachey
Property Oct 21 Final 25
Press (Wm.) Oct 30 Int. 0.8
Reed Intal. Oct 38 Int. 4.0
Rockwere Oct 14 Int. ell
Sainsbury
(1.) Nov 5 Int. 65 Props....Nov. 6 Final 35 stchley Nov 4 for 28 hiths lads...Nov 11 Final 5.3 Tozer
Kemsley Oct 28 Int. 156
Kemsley Oct 28 Int. 156 UBM Get 21 Int. 20 Whithread Nov 10 Int. 2.1.

Wolseley-Hoghes Nov 14, Fingl 8.1-Board meeting intimeted 1 lights issue since made. 1 Tax fee. 1 Scrip issue since made. 2 Forecast

Half-year drop for Waverley Cameron

Date

Allied Irish
Sanks...Nov 12 Int. 3.5
Associated
Biscuit...Oct 13 Int. 2.0

Gerrard and Nat....Oct 19 Int. 5.0.

*Hawker Siddeley Oct 21 Final 3.0 Hill Samuel ...Nov 12 Int. 22

Johnsen Oct 14 Int. 1.5

Stationery manufacturer Waverley Cameron suffered a fall in pre-tax profits to £44,552 manufacturer in the half year to June 30 1981 compared with £80,856, on tirm-over up to £961,835 from £923,105:

The board says the results reflect the continuing weakness of general retail trading.

Stated earnings per 25p share remain at 4p. Tax took a markedly lower £5,454 (£42,045). For 1980 the dividend, paid annually, was 3.75p net on a tax-able surplus of £227,425.

GLYNWED/DURAPIPE

Acceptances of the offer from Glynwed, for shares in Durapipe not already owned, have been received in respect of 937,294 (9.5 per cent) shares. Glynwed now holds 5,073,549

(516 per cent) and the offers have become unconditional as to acceptances.

Brasway chief confident

Mr R. A. Swahy chairman and managing director of Brissian, told the annual meeting the company had cause for mules, satisfaction in the current ... The company is now seeing a

very different picture from last year and is chalking up good year and is chairing up good monthly group profits, mainly from the tube division. The bright har division, purchases in March 1981, had been to organised along the same lines. The scrap division as sall causing problems due to low output from industry, but with seven months to go in the car. seven months to go in the cursee a profit from this division of £200,000 providing there is no

further downturn in the business mate. "The company is very strong figancially, and we will do wel in the coming years."

DIAMOND HAS 17% OF HOWARD MACH.

Diamond Industries has cquired a further 105,000 shares

CURRENCIES, MONEY and GOLD

on Italian credit markets. It bill rate. Alfa's investments

Alfa Romeo forecasts

ROME—Alfa Romeo, Italy's L1.500 to L2.000bn in the next state-owned motor car manufacturer, expects to incur a loss joint ventures, including its

further loss for 1981

A minefield of information by COLIN MILLHAM

GURRENCY analysis can be rate to 11 per cent from 12 per something of a minefield for the unwary, with new factors sudsomething of a minefield for the unwary, with new factors suddealy exploding on to the scene,

occupy the mind, ranging from interest rate changes to fears about oil supplies, and from political rows to currency re-alignments. A revaluation of the D-mark against most of its partners in the European Mone-lary System had been expected for some time, while the cut in the Bundeshank special Lombard at the previous day's tender.

10.95-11.05

29.00-29 45 3.48-3.55

the top of the system again too

causing sharp fluctuations on the quickly.
foreign exchanges. The French authorities also Last week there was plenty to took advantage of the changed circumstances to reduce domestic interest rates, as the French franc moved to the top of the EMS following its devaluation and the easing of the dollar on interest rate cuts. Paris call

brought the differences between

-1.92 -7.60 1.69

Dutch Guilder Swiss Franc

SDR linked deposits: one-month 13%-14% per cent: three-months 14%-14% per cent; six-months 14%-14% per cent; one-year 14%-14% per cent.

ECU linked deposits: one-month 14%-15% per cent; three-months 14%-15% per cent: six-months 15%-15% per cent; one-year 14%-15% per cent

Asian S (closing rates in Singapore); one-month 15/-15% per cent; three-months 16%-16% per cent: six-months 16%-16% per cent: one-year 16%-16% per cent.

Long-term Eurodoffar two years 16%-16% per cent; three years 16%-16% per cent; four years 16%-17 per cent; five years 16%-17 per cent nominal closing rates.

The following nominal rates were quoted for London dollar certificates of deposit: one-month 14.95-15.05 per cent; three-months 15.80-15.90 per cent; six-months 15.90-16 CO per cent; one year 15.90-16 CO per cent;

154-161-154-155

1.09 5-3½ pm -2.01 6½-6½ dis -2.41 8-7 pm 8.92 9.00-8.70 pm

3.71 257-16 pm 3.86 44-44 pm

British

GOLD

monetáry

OTHER CURRENCIES

French Franc Italian Lira

171-1812

Bank Trade Bills + Bills +

vative Party into sharp relief. Eurodollar rates fell by about but it appeared to have no 11 percentage points during the week, while the dollar lost more harmful than 10 pfennigs against the D-mark, but less than 1 franc against the French currency. Political events centred around which benefitted from various other factors.

Gold Bullion (fine ounce)

Gold Coms (£246-2461₂) (£1261₂-1271₄) (£641₂-65) (£261₄-27) (£58-581₂-1 (£651₄-661₄) (£651₄-661₄) (£721-24-741₄) (£291-2881₄) (£231-3331₄)

(£238-259) (\$445.447 (£2353:-23614) (\$442.443 (£236.100) (\$441.75 (£238.120) (\$443.25

North Sea oil reserves took on a new importance, following the the arguments on monetary policy between the U.S. Adminiassassination of President Sadat and civil unrest in Egypt. Fears about Middle East oil supplies stration and the Federal Reserve helped the pound, but the major factor remained, interest rate Board, creating suggestions that the central bank may be under pressure to ease its credit polidifferentials. Despite an easier trend in London money market rates, the fall in U.S. rates worked in favour of all the various wings of the Conser- currencies, particularly sterling.

\$45512.45712 \$235.239 \$119-123 \$48-51 \$48-51 \$10612.10812 \$122-124 \$122-124 \$122-124 \$125-139 \$554-557 \$433.436 \$557-592

OFFSHORE & OVERSEAS-contd.

Emperor Fund* \$7.26 7.62 6.30 Prices at Sept. 30. Next seb. day Nov. 1. Chawton Commodities (Isle of Man) Ltd. 29, Attol Street, Douglas, I.o.M. 0624 21724 Mornandy Metal Trust. 1 3703 1 4424 400 Normandy Con. 7si. 1 2008 1 3777 400

For Clive Investments (Jersey) see Invicta Investment Management Comhill Ins. (Guernsey) Ltd. Cortexa International

DWS Deutsche Ges. F. Wertpapiersp

Program 2000 Included 17.864-0.18 high-samuel & Co. (Guernsey) Ltd.

Duncan Lawrie Inv. Mgt. (Jersey) 15-17, New St., St. Heller, Jersey 0534 736.37 DL Sterling. [037.4 393 6.70 Dt. International [51.12 1.18 5.00 DL International International P.O. Box 73, St. Heller, Jersey. 0534 7343 E.D.I C.T. 1130.7 143.11 0534 73933

Prices September 30. Weekly dealings.
Fidelity international Ltd.
P.O. Box 570, Hamilton, Bernstein
R. Queersway Hee, Queen St., St. Heirer,
Jersey, C.I. 0534 71048.
American Access

ent (U.K.) Ltd Park Hse., 16 Firstury Circus, London EC2 . Tel: 01-628 8131. TLX: 896100

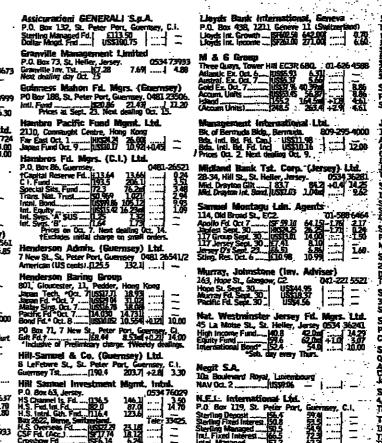
nbro Pacific Fund Myrnt. Ltd.

mbros Fd. Mgrs. (C.I.) Ltd. Henderson Admin. (Guernsey) Ltd. 0481 26541/2

I.C. Trust Managers Ltd. 10, St. Georges St., Douglas, IoM 0624 25015 Int. Commodities 18, 1982 104.51 -9.71 Next dealing day October 14.

Gilt Find Guernsey 7.17 7.22m 15.00 mt. Gort. Sec. Tol. 15.19 15.29 15.00 mt. Gort. Sec. Tol. 15.19 15.20 15.00 mt. Gort. Sec. Tol. 15.19

Krediethank N.V. (Belgium) Arenberstraal 7, B-1000 Brussels Eurimest NAV | |Fluidos 0534*27*561 1.37



Sterling Deposit 56.4 Sterling Fixed Interest 50.8 Sterling Managed 66.5 Int. Fixed Interest 66.5 Intri. Managed 77.2 Pacific Basin Fund

Providence Capitol Life Ass. (C.I.)
P0 Box 121, St Peter Port, Gaernsey 0481 251
Sterling Bond Fd. 183.6 45.8 5
Sterling Enginy Fd. 682.9 9 104
Intal Engity Fd. USS 19 104
Intal Engity Fd. USS 17 123
Prices at Oct. 7. Next dealing Oct. 14. Quest Fond Magarant. (Jersey) Ltd.
PO Box 194, St. Heiler, Jersey. 0534 27441.
Quest Sdg.Fad.Int. 106.679 0.779 11.93
Quest Ind. Sect. 50.977 1.040 1.244
Quest Ind. 124 (ISBL*79) 0.899 1.244
Prices on Oct. 7. Next dealing Oct. 14.

Confitter/Neimold Communities 31-45, Grestian Street, ECZY 71.H. 01-600 4177. Resource Fund Ind. Oct. 1. NAV USS1444.40. Next dealing data Nov. 2 RBC investment Managers Limited PO Box 246, St. Peter Port, Guerniey, 0481-2 Richmond Life Ass. Ltd. Richmond Life Ass. Life.

4 Hill Street. Douglas, I.O.M. (MS24 29914

The Silver Treet. 1196.7 207.01 +5.2

Do. Diamond Bd. Ba.B. 91.4 12.4

Sarving Depose bd. 1285.56 143,74 12.48

Arise Gdr. & Com. Fd. 72.1 97.01

Life Citt. Friend. 1077.4 113.01 +0.8

Sapointe Trust. 135.1 142.1 142.1

Meanged Fund. 124.2 130.7

The offers remain conditional in Howard Machinery, increasing on the approval, at a Durapipe its holding to 5.03m or 17.48 EGM, of a capital reorganisation. per cent Scrimmeour Kenny-Gue Mingant, Jersey I, Charing Cross St. Heiler, Jersey. 0534 73741.
SKG Capital Find 10427 19711 70.12
SKG Informe Fund 1845 10.11
Sentry Assurance International Ltd.
P.O: Box 1576, Hamilton S. Bermuda.
Managed Fund 1053141781 4.59621
Singer & Friedlander Luin. Agents.
20. Canons St. EC4. 001258 23.77 1.73
Tokyo 7st. Sept. 30. 10544.89 236

Strategic Metal Trest Mingrs Ltd. 3 Hill Street, Douglas, IOM Strategic Metal Tr. 1859 965 0 989 1 1 Surinvest (Jersey) Ltd. (x)
Queen Hise, Dan Rd., St. Helier, Jey. 0534 27350
American Ind. 75. 165.48 5.59-068
Capper Ind. 75. 165.48 5.33 4.011
Lap. Index Tst. 163.06 8.22 San Index Tsi. ISB.06 B.ZZ

San Index Tsi. ISB.06 B.ZZ

San Invest Trust Managers Life

4. Hill Street, Douglas, Isle of Man. ISB.252794

TSB Trust Funds (C.1.)

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TSB Off Funds Life Life Life Life

Prices on Dic. 7 New Sub day Do. 18.

Tokyo Paciffic Holdings N.F.
Indints Management Co. W.V. Caracas.
NAV per stare Oct. 5. US\$88.61.
Tokyo Pacific Hillings. (Seatheard) N.V.
Indints Management Co. M.V. Caracas.
NAV per stare Oct. 5. US\$81.75.
Typutal Cones.

MAV per stare Oct. 5, US\$61.75.

Tyruchall Geroup

2 New St., St. Heller, Josep.

1055. Oct. 8. (211.20) 2.00

Accum; siares) (19.50 20)

Armerican Oct. 8. (44.4 157.8 21.4

Accum; siares) (15.8 16.0)

For Eastern Oct. 8. (13.8 16.0)

For Eastern Oct. 8. (13.8 16.0)

Jaccum, siares) (138.8 16.8 21.4

Jersey, Fland Oct. 7, 171.0 122.4

Jersey, Fland Oct. 7, 27.6 24.4

Gill, Fund Oct. 7, 27.6 24.4

Jaccum, Sarest) 157.2 17.4

Jaccum, Sarest) 157.2 17.4

Jaccum, Sarest) 157.2 17.4

Jaccum Starest 112.0 12.4

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Jaccum Starest 12.0 12.4

Jaccum Starest 12.0 12.0 12.0 12.4

Jaccum Starest 12.0 12.0 12.0 12.0 12 Unico Invest. Fd. Mingt. Co., S.A. Luc. London & Continental Bardons Ltd.

Seign to Seet 15 (1531.3b 133)

Warburg Havest. Magt. 1-31 (1541.3b)

Through Hace, St. Hefer. 1st. (1 0531.35)

Merch Cern Ort. 6 (14.2b) 18 (15.3b)

Merch Cern Ort. 6 (14.2b) 18 (15.3b)

Merch Fren. Ort. 2 (11.3b) 18 (15.3b)

Wardley investment. Services (15.3b)

Wardley first 160.2b 18 (15.3b) 18 (15.3b)

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Wardley fister An. Re (15.3b) 18 (15.3b)

Marchede G. F. F. Salvilley 18 (15.3b)

Mren. Convenienty Management (14.5b)

Approximate solling rate for one-month Treasury bills 15%-15% for cent; two-months 15%-15% per cent; three-months 14%-14% per cent. Approximate selling rate for one-month bank bills 15%-15% per cent; two-months 15%-15% per cent; two-months 15% per cent; two-months 15% per cent; three-months 15½ per cent. Finance Houses Base Rates (published by the Finance Houses Association) 14½ per cent from October 1 1981 Clearing Bank Deposit Rates for sums at seven days' notice 14½ per cent. Clearing Bank Rates for lending 16 per cent. Treasury Bills: Average tender rates of discount 14.8056 per cent.

CURRENCY RATES rate Drawing Rights

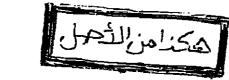
15.40

Sterling	-	0,614546	0.58526
U.S. Ş	14	1.17071	: 1.11784
Canadian 5	18.95	1.40134	: 1.33985
Austria Sch.	63,	17.9294	17.0918
Belgian F		42,9548	40.9745
Danish K		8.24180	7.86564
D mark-		2.55566	2,43913
Guilder	gʻ	2.82844	2.69568
		6.41491	
French Fr			. 6,11572
Lira		1362.12	1300,61
Yen	61,	267,507	253.471
Norwgn. Kr.		6.76302	6.44436
Spenish Pts.		108.993	104.071
Swedish Kr.		6.33588	6.04585
	ı -=	2.14767	
Swiss Francis	=		2,04845
Greek Drich.	AU15	_	· 61.4814

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Allen Harrey & Ress Unit Tel. Miggs. 25, Control Landon First 1981. 1982. 1984. 1985. 26, Control Landon First 1981. 1982. 26, Control Landon First 1981. 26, Control Landon First 1982. 26, Control Landon Fi	tertingtion Unit Trust Magt. Ltd. 1892 Chambers Barnestopic Deven 0271 76324 1802 Peri. Sent 181223 20.30;	Aleyrd's Life Unit Tst. Magrs. Ltd. 2 St. Mary Aus. EC34 88P. 01-6236114 Enough Access. (2)	Capiesi 2710 1938 -0.2 251 (Access Units) 2214 230 -0.3 251 (Access Units) 390.3 415.4 28 813 (Access Units) 390.3 415.4 4.8 813 (Access Units) 1247 1348 4.0.4 8.1 (Access Units) 178.3 191.7 4.7 4.3 (Access Units) 178.3 191.7 4.7 4.3	Equity Units	Security Fund	Norn-ch Guen Life Insurance Society Pressleavester Fixed Interest*	Facel Interest ACC. 123.5 131.5 131.5 131.6 131.6 131.6 131.5 131.
Hallmer Project Assect 16:	pully & Law He. Tr. M. (a) (b) (c) mirriade No., High Wynasthe. 0494 33377 (c) Wr. Tr. M. (a) (b) (c) mirriade No., High Wynasthe. 0494 33377 (c) Wr. M. (a) (b) (c) 5.09 (c) 6.00 (c) 5.09 (c) 6.00 (c)	Three Quays, Tower Hill, ECSR 6BQ. 01-626 4588 American 70.3 75.2 -0.6 2.34 American 76.1 81.4 -0.6 2.34 American 76.1 81.4 -0.6 2.34 American Recurery 76.9 12.9 -0.4 1.64 (Accom. Units) 77.4 55.0 -0.4 1.64 Asstratistian 82.3 45.4 -0.2 1.51 (Accom. Units) 72.6 49.5 +0.2 1.51 (Accom. Units) 72.6 19.3 +0.2 1.51 (Accom. Units) 72.6 19.3 +0.2 1.51 (Accom. Units) 72.6 19.3 +1.8 3.45 (Compound Growth 17.5 18.0 +1.4 3.39 Competion Growth 115.0 123.1 -0.2 2.86 Conversion Growth 115.0 70.9 +0.4 9.65 Conversion Inconversion 77.9 76.9 +0.4 9.65	Accum. Units.	2nd County 132 2 137 9 + 0.7 2nd Foreign 132 2 134.7 + 0.5 2nd Managed 127 2 134.7 + 0.5 2nd Giff 132 4 10.8 2nd Giff 132 4	Property Units. 250.1 262.7	Phoenix Assurance Co. Ltd. 4-5 king Villam St., EC4P 4NR. 01-626 9876 Wealth Ass	Sam Lee Pressus acceptant 22. (leasts for Individual Persus acceptant 22. Persus Manuaged Cap. 148.2 147.5 +0.6; — Persus Manuaged Acc. 147.8 155.5 +0.7; — Persus Property Cap. 1110.6 11.65 +0.2; — Persus Property Acc. 1117 119.7 +0.11 — Persus Equify Lab. 159.7 16.2 +3.5; — Persus Equify Lab. 159.7 16.2 +3.5; — Persus Equify Lab. 169.5 15.3 -3.7; — Persus Equify Lab. 169.5 14.6 +0.4 — Persus Cap. 169.6 146.6 — Persus Cap. 169.8 146.8 — Persus Cap. 169.8 146.9 —
High income 175.2 83-m eA.Q. 155 Fa. Coulty immer Ed. 45.5 Fa. Coulty immer Ed. 45.5 Fa. Coult Ser. 27.5 52.3 eA.J. 12.5 Fa. Coult Ser. 27.5 52.3 eA.J. 12.5 Fa. Coulty immersional. Funds 17.5 Fa. Coulty immersional. 15.7 52.3 e. Co	th Antifice Tet. Acc. 1882 518 101 114 for East 19. Acc. 1882 500 101 109 for East 19. Acc. 1422 500 101 109 for East 19. Acc. 1422 500 101 109 for East 19. Acc. 1422 500 101 101 101 101 101 101 101 101 101	Dividend 12.9 134.7 +1.6 10.05 Azam. Units 26.9 38.1 +3.7 10.06 Azam. Units 26.9 38.1 +3.7 10.06 Azam. Units 26.9 4.1 -0.3 32.5 Azam. Units 26.3 13.04 Azam. Units 130.2 13.19 Azam. Units 130.2 13.19 Azam. Units 121.4 13.11 Azam. Units 121.4 Azam. Units 121.4	*Recovery Sept. 22 (270.7 291.0 45.6 250c. Ex. Sept. 15 491.1 51.7 21.9 Euro. Except. Oct. 8 (110.0 119.3 3.03 For the second facts only. Scottisch Amiscable Low. Megers. Ltd. 150 St. Vincent St., Gasspow 041.221.8844 Equity Trust Accure. 196.9 104.6 -0.3 5.62 Scottisch Equitable Fund Megrs. Ltd. 28 St. Andrews Sq. Edinburgh 160.1 5.65 10.1 10.1 10.1 10.1 10.1 10.1 10.1 10.	2nd Am. PeriZiacc	Property Act. 1148.5 156.9 — Property Cap. 131.7 18.7 — Managed Act. 209.6 220.7 — Managed Cap. 177.0 55.4 — Guaranteed Act. 164.2 172.9 — Guaranteed Cap. 138.0 146.0 — Emalty Act. 1140.1 153.8 —	1st Managed 91.2 96.9 — 1st Fleed interest 68.1 72.4 — 4th Managed 52.5 55.7 — 5th Managed 67.5 72.0 — Pets on Managed 67.5 72.0 —	Pers. Intol. Cap
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De Act 1549 1545 1546	L & Erres. Sct. 7 - 17.1 95.1 3.71 10.9 3.71 10.9 3.71 10.9 3.71 10.9 3.71 10.9 3.71 10.9 3.71 10.9 3.71 10.9 3.71 10.9 3.71 10.9 10.9 10.9 10.9 10.9 10.9 10.9 10.	National Westminster (a) 11-50-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-6-	Accuss, Units)	Berswin Equity Fd	Minerals Oct. 7 97.0 95.3 Nat. Hi. Inc. Oct. 7 91.2 85.5 Prop. Str. Oct. 7 27.7 86.1 Prop. Str. Oct. 7 27.7 86.1 Smilr. Cs. Ts. Oct. 7 94.5 95.5 Univ. Oct. 7 75.6 95.5 Only Oct. 7 75.6 95.2 Gist Oct. 7 28.5 96.2 Gist Oct. 7 28.5 96.2 Sarbaser Fastis Scries 2 American Oct. 6 114.1 120.2 British Oct. 6 28.0 88.5 Commodity Oct. 6 97.0 104.3	Prop Fd. (1st Issue) 323.5 — Prop Fd. (2nd Issue) 100.3 106.1 — Managed Fd 62 102.3 +15 — Rothschild Asset REmagement St. Swittins Lane, London EC4. N.C. Frop (169.8 180.6) — Next son period Sept 30/3ct 15 Royal Instantance Errcup New Half Place, Liverpool. 201-227 4422 Royal Shield Fd [198.2 209.7] —	For other funds, please refer to The London & Manchester Groep. Windsor Life Acsur. Co. Ltd. Revol Albert Nee, Sheet St., Windso: 68144 Investor Units
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Upt. Jenises (W)
Dec Leen (Wm.) 20p
Dec Marshalls (Hrt)
Aug May & Hassell
July M.D.W.
Sept Meyer (Mont L)
Feo, Mitbury
Nov. Miller (Stan) 10p
Ap Mis Concrete
May Mook Engineers
Sep (Mook (A)
July) Mooker (J)
July Mooker (J) **AFINANCIAL TIMES SURVEY**

Dec. Sonic Sound 10p.
Nov. Stanley & G. 5p.
Aug. Stead. & 5m. 'A.
Apr. Steinberg 10p.
by Summe 20p.
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FOOD, GROCERIES, ETC.

FINANCIALTIMES EUROPE'S BUSINESS NEWSPAPER

The Financial Times proposes to publish a survey on International Insurance in its issue of November 25 1981. The

INTRODUCTION A prolonged period of low economic growth is having a major impact on the shape of the world's insurance markets. In the search for premium growth, companies are attempting either to take business from their domestic rivals, or to gain a foothold in other markets. Meanwhile, the hoped-for recovery in the U.S. is taking a long time to materialise, but many companies are still managing to achieve a reasonable

Editorial coverage will also include:

An overview of the world's insurance industry, by territory and

The brokers are also in a state of flux. A review of the mergers

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which have succeeded — and some which have not.

The Business Outlook

Reinsurance

Life and Pensions

Lloyds

in the U.K.

provisional editorial synopsis is set out below.

return on capital.

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The attractions

The Barriers to

Transnational Business

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The size, contents and publication dates of Surveys in the Financial Times are subject to change at the discretion of the labbur.

Financial-Times Monday October 12 1981 23 INDUSTRIALS Continued PROPERTY—Continued INSURANCE—Continued INVESTMENT TRUSTS-Cont. OIL AND GAS—Continued YOUR SECRETARY IS WAITING Disidents Poice at Het C'er Gr's PRE Price 15 Net Stock FOR YOU IN PARIS | ItCastricty Pr. 2b | ItCastr July (Candee & Lon....
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New Cavendish 5p. 340

Feb. Mark Bart. Props. 152

Jan Peachey 130

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July Prop. Part Stip. 125

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Dec. Hill (Philip)

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Sept. Keystone Inv. Inc. 10p

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Lon SHOES AND LEATHER Octo

| Section Dec Footwear Ims...
June Garnar Booth...
June Headlan, Sms Sp.
Oct Lambert Hth. 20p
Oct Newbold & Bur'n.
May Pitterd Grp...
Aug. Scott (David) 10p
Nov. Strong & Fisher
L. Stylo.........
June Ward White 29.9 Q14c | New President | 12-6 | 17 | 185 | 195 | 23 | 101 | 44 | May | May | Ozalut Fin. Cv. | 166 | 194 | 1994 | 1444 | 40 | April | 17 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 1774 | 177 75 Q44% Apr. Amal Nigeria Ip.
Nov. Ayer Hitzam SM1.
Aug. Geevor
Gold & Base 122:0.
Jan. Gopeng Cons.
Aug. Horsglong.
Sept. Idris 10p.
Sept. Idris 10p.
May Matay Drebping 10c.
Pahang.
Pahang. 10 14.1 May SOUTH AFRICANS 0.7 3.2 1.2 6.8 1.1 6.7 1.0 6.7 1.0 4.8 1.3 2.5 01.92 July Monts Invest ay Mont. Boston IOp Do. Wrrs. £1 Aug. Moorgate Inv Mar. Moorside Trust Oct. Murray Caledonian **OVERSEAS TRADERS** 76.3 1.65 28.9 2.7 24.7 1.85 11 37 Apr.
6 31 Jan.
10 33 July
10 43 Apr.
10 15.4 Jan.
10 15.4 Jan.
10 15.4 Jan.
10 15.4 Jan.
11 68 Apr.
11 65 Apr. Jan. May Murray Clydesdale
Do. B.
Apr. Nov. Murray Glendevon
Do. 'B'
Jan. Sept. Murray Northn.
Do. 'B'
Apr. Aug. Murray Western. **TEXTILES** 125± 118 81 76± 77 74 Dec. July Seales (J.) 20p.
May Nov. Secknson A. 10p.
Junte Jan. Blackson Mort.
May Nov. Brit. Mehair.
Jan. July Bulmer L'mb. 20p.
Jan. July Bulmer L'mb. 20p.
Jan. July Bulmer L'mb. 20p.
Jan. July Carrets Int. 50p.
May Nov. Carr'gen Viyella
Dec. June Coats Patons.
Oct. May Corah.
Jan. July Courtanids.
Mar. Sept. Dawson Indi.
Feb. Sept. Dawson Indi.
Feb. Sept. Dawson Indi.
Feb. Oct Diano (Gavid).
Nov. July Early of Wory Ilp.
Jan. July Foster (J.)
May Nov. Gasteff B'one 20p.
Apr. Nov. Hickiesp P'st. 50p.
Jan. Aug. Ingram (H.) 20p.
Jan. Aug. Ingram (H.) 20p.
Jan. July Leeds Dyers
Jan. July Lytes (S.) 20p.
May Dec. Marciacy Hugh.
Jan. July Lytes (S.) 20p.
May Dec. Marciacy Hugh.
Jan. July Martin (A.) 20p.
Nov. June Miller (F.) 10p.
Nov. June Miller (F.) 10p.
Sept. Apr. Montfort —
Monto Bros 10p.
July Dec. Notis. Marning.
Mar. Sept. Nova Jersey 20p.
Jan. July Poster (F.) 10p.
Jan. Sept. Nova Jersey 20p.
Jan. July Dec. Notis. Marning. 0.8 10.5 18.0 Sept. Hurray Western B.
Do. B.

Aug. Murray Western B.
rch Neght S.A. SUS1.
Also New Throp, Inc.
Do. Cap. E1.
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New Tohyo Inn. Sop.
June 1928 Invest.
Dec. Nrb. Atlantic Sec.
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July Northern Secs.
Aug. Doit B. Assoc. Inv.
Nov. Dotwich Inv.
Sept. Rift Sop.
Feb. Raeburn Oct.
Rights & Iss. Cap.
Mar. River & Merc.
Nov. Rift Sop.
Nov. Do. Sub. Sri's FIS.
Rolinco NV FISO. 15.6 t2.3 Copper | Messina R0.50 | 320 | 29.6|+045c| 4.7| 8.0 Miscellaneous Anglo-Dominion ...
Berna Mines 109
Cobby Res. Corp. ...
Feb. Cons. Murch. 10c.
71 Explaura Gold. ...
11 Highwood Res. ...
Highwood Res. ... 18 64 = = = **NEWSPAPERS, PUBLISHERS** | Awy | Ass. Book P. 20p | 303 | 18.5 | 77.5 | 2.77 | 3.6 | 10.5 |
Aug. Assoc. News	188	23.4	43.0	4.3	7.9	5.3		
Dec. BPM Hidgs: A'	96	23.5	25.2	2.7	7.8	5.3		
Dec. Benn Brothers	80	28.5	8.8	2.1	6.8	8.4		
Oel. Black (A. & C.)	80m	28.9	2.0	-3.6	-3.6			
Mary Collins William	200	14.9	15.7	2.4	5.4	7.16	2.1	
Aug. Daily Mail A' 50a	370	24.7	12.6	3.1	2.2	3.4	7.7	
Aug. Daily Mail A' 50a	370	24.7	26.6	1.2	10.10	13.6		
Aug. Baily Mail A' 50a	370	24.7	26.6	1.2	10.10	13.6		
Aug. Baily Mail A' 50a	370	24.5	25.5	24.7	7.16	2.5		
Aug. Baily Mail A' 50a	370	24.5	25.5	24.7	7.16	2.5		
Aug. Baily Mail A' 50a	370	2.4	3.7	2.2	2.2	2.1	3.7	7.7
Oet. Haynes Pub	1.3	15.5	3.5	3.0	6.0	7.6		
Aug. Baily Mail A' 50a	2.2	3.8	3.5	2.1	3.7	7.7		
Oet. Haynes Pub	2.2	3.8	3.5	2.1	3.7	7.7		
Aug. Home Counties	60ad	2.9	6.5	0.7	15.5	12.8		
Aug. Baily Mail A' 50a	2.2	3.8	6.5	6.9				
Aug. Baily Mail A' 50a	2.5	1.4	1.5	1.6				
Aug. Baily Mail A' 50a	2.5	1.4	1.5	1.6				
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Aug. Baily Mail A' 50a	2.5	1.4	1.5	1.6				
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Aug. Baily Mail A' 50a	2.5	1.4	1.5	1.5				
Aug. Baily Mail A' 50a	2.5	1.4	1.5	1.6	Ropaler Histor. RUBBERS AND SISALS Price of Net Cw Gr's gust Anglo-Indones'n ...			
Nov. Barlow Hldgs. 10p ...
pt. Bertam Cons. 10p
July Castlefield 10p
Nov. Cons. Plants M30.5
Grand Central 10p
July Guthrie £1.
Oct. Harrsons Wy £s. 10p
May Highlands M50c...
July Ht Kulim M50c...
Jan Lén. Sumatra 10p
June (Maladoff M51... Rolinco NV F150. De. Sub. Sh's F15 11 85 11 61 19 43 19 55 11 61 | 104 | 105 | 104 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 | 105 an | Lin. Sumarra 10p | 300 | 77, 10, 48,0 | 55 | 15, 50,15c | 6 | 55 | 15, 50,15c | 13 | 9,0 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 | Dec. June (Malakoff MST 72 18.5 (0171-c 6 5.5 Apr. Oct. | Malay, Plants MS1 45 18.5 (018c 1.3 9.0 Dec. | Rightwise 10p ... 125 28.8 1.0 10.3 1.1 Apr. Dec. |Lumuna E1......| 405 | 15| 521.0 | 13| 7.4 Africa May Gct.|Ruo Estates.......| 59 | 280|+1.0 | 4.3| 2.5 statement.

Cover allows for conversion of shares not now ranking for dividends or ranking only for restricted dividend.

Cover does not allow for shares which may also rank for dividend at a future date. No PIE ratio usually provided.

No par value.

Viried based on assumption Treasury Brill Rate stays unchanged until maturity of stock. At Available only to UK persion schemes and insurance companies engaged in persion business. a Tax free. In Figures based on prospectus or other official estimate. C Cons.

Dividend rate paid or payable on part of capital; cover based on thirdend and yield. It Assumed dividend and yield. Assumed dividend and yield. Assumed dividend and yield. Assumed dividend and yield. It assumed dividend and yield after scrip issue.

Payment from capital sources. It Monya. an interial higher than previous lotal, in Rights issue perdiong. Earnings based on preliminary. The previous lotal, in Rights issue perdiong. The Traito based on latest annual earnings. It for read to previous dividend. PIE ratio based on latest annual earnings. It for free op to 300 in the L. y Dividend and yield based on merger terms. 2 Dividend and yield include a special payment. Cover relates to previous dividend. A Net dividend and yield based on prospectus or other official estimates for 1981-82. C Assumed dividend and yield after pending scrip andlor rights sues. M Dividend and yield based on prospectus or other official estimates for 1982. M Dividend and yield based on prospectus or other official estimates for 1982. P Figures based on prospectus or other official estimates for 1980. P Figures based on prospectus or other official estimates for 1982. P Figures based on prospectus or other official estimates for 1982. P Figures based on prospectus or other official estimates for 1982. P Figures based on prospectus or other official estimates for 1982. P Figures based on prospectus or other official estimates for 1982. P Figures based on prospectus or other official estimates for 1982. P Figures based on prospectus Rand

157m | 28.9 060c | \$\phi\$ | 21.9 | \$\frac{1}{2}\$

105 | 92 015c | 0.8 6.5 c | \$\phi\$ | 21.9 | \$\frac{1}{2}\$

151 | 92 015c | 0.8 6.5 c | \$\phi\$ | 21.2 | \$\frac{1}{2}\$

275m | 28.9 0166c | \$\phi\$ | 12.3 | \$\phi\$ | 147 | 28.9 0166c | \$\phi\$ | 12.3 | \$\phi\$ | 147 | 28.9 0166c | \$\phi\$ | 12.3 | \$\phi\$ | 183 | 29.5 | 10.9 | \$\phi\$ | 183 | 29.5 | 1.5 | 10.9 | \$\phi\$ | 147 | 28.5 | 04.0 c | 1.4 | 15.6 | \$\phi\$ | 15.4 | 100 | 118 | \$\phi\$ | \$\phi\$ | 10.5 | \$\p Finance, Land, etc. t Rand

735 | 236 0260 | 13 203 | 5 227 | 156 0710 | 1517.8 | 6 220 | 212 05c | 32 1.4 | 6 211 | 216 0335c | 2116.6 | 6 211 | 2 26 0335c | 2116.6 | 6 211 | 2 26 01025c | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 REGIONAL MARKETS The following is a selection of London quotations of shares p listed only in regional markets. Prices of Irish issues, most of a not officially listed in London, are as quoted on the Irish e S.

300 247 Q477-c; 1.9 9.1; 222; 18.5; 1995/b; 1.9 ‡
827ml 28.9; 19360c 1.9 ‡
223 975- 2216.5
£1992 18.5; 19655c 1.4 ‡
£20ml 28.9; 19725c 1.3; 207.5
814 18.5; 14000c 1.3; 19.7; £331-2; 18.5; 14000c 1.3; 19.7; **OPTIONS** 3-month Call Rates Diamond and Platinum (A)3 | 15 Q890c | 1.0|12.9 354d | 28.9 Q75c | 2.5|12.1 700d | 28.9 Q20c | 37.3|6.3 415 | 28.8 Q110c | 2.9|15.2 185 | 10.4|4033.2 | 1.0|10.3 252 | 10.4| Q45c | 4 | 10.8 "Recent Issues" and "Rights" Page 20

FINANCIAL TIMES

Monday October 12 1981

COMPUTER BASED TURNKEY Contact Mike Withers, Systime Liggled Concourse Computer Centre 432 Developed Leeds LS11 7DF Tet 702211

Thatcher 'no' to political status for bombers

By Jason Crisp

given political status. Mrs FitzGerald, Prime Minister of Thatcher said yesterday after the Irish Republic, when he visiting London hospitals to meets Mrs Margaret Thatcher. IRA bombers will never be speak to the victims of Satur-

day's nail-bomb explosion. She described the attack, in which a woman died and 40 over 20 soldiers in the Irish Guards, as " cold, callous, brutal and sub-human." Those responsible were "criminals without

regard for life or limb."
Commander Michael Richards. head of the anti-terrorist squad. resterday warned the public to be alert for other devices and repeated his call for information on any suspicious people who had recently arrived in London,

particularly from Ireland. The police confirmed yester-day that the bomb had been inggered by remote control so it would explode as the coach with soldiers passed. It is the first time the IRA had used such a device in England, al-

The homb, which was in a Commer van parked by a zehra crossing in Ebury Bridge Road to Chelsea Barracks. exploded at 12.10 pm on Satur-

day.

The bomb was exploded by a wire which ran up scaffolding outside a block of empty flats. It ran along the scaffolding at port's 3,300 dockers. first-floor level for about 100

from Victoria Station, would in the first six months of this have passed the bomber who would have been shielded from the blast by a wall. It is the first time the IRA has used a for the port.

Temote control device in The decision to stop work.

ber EAN 7801 — was bought pool yesterday, follows the in-in East London on September troduction only weeks ago. 17 for £450 in cash and driven after months of protracted negoaway immediately. On Friday, tiations, of a pay night it was parked in a street tivity agreement, off Ebury Bridge Road.

At about 8.30 am on Saturday one man was seen putting coins in the parking meter and another, wearing overalls, started taping wire to the

It was stopped by the zig-zag lines of the zebra crossing and exploded just over half-an-hour

Last night there were still 13 patients detained at West-minster Hospital including two children, eight soldiers, the civilian coach driver and the wife of a soldier. All were said to be "satisfactory" except for one soldier, who is still in in-

dition is described as "serious."
Three patients, including two soldiers, still detained at St Thomas's are all described as

"satisfactory."
Police yesterday issued descriptions of four men they believe were involved in the bombing. The first two were seen with the van.

One is in his late 20s or early 30s, height 5 ft 10 in, with dark collar-length hair, a swarthy complexion and bushy mouslache. He was wearing darkgren overalls and a grey wollen

The second, of similar age, height 5 ft 8 in, had collarlength hair and was of slim to the company by any pro-build. He were a dark shirt, longed industrial action. blue Jeans and sandals.

The man who did the wiring of stocky build and with blond hair. He was wearing a dark boiler suit. The fourth, seen feeding the meter, was described years has successfully impleas just over 20 with long fair | mented single-figure pay deals.

goods by the Malaysian public

reached this conclusion after a

Mohamed, the new Prime

Minister, on moves being taken

to scrutinise all future Govern-

ment contracts with British

amounts to a boycott. In official

terms he has simply ordered all

agencies to get approval from

the implications of his directive

to British companies. ...

llovernment Ministries and man said.

In answer to a question on years.

full briefing from Dr Mahathir longer exists.

firms, and the reasons for these full boycott or not.

FitzGerald may propose Anglo-Irish council

AN ANGLO-IRISH council operatin gat ministerial level and briefed to examine constitutional issues touching on all aspects of the Irish question may be proposed by Dr Garret the British Premier, in London early next month.

The projected meeting would be the first bilateral contact people were injured, including since Dr FitzGerald came to power in a Fine Gael/Labour esoalition last July.

He is expected to use the occasion to encourage Britain to launch a new Anglo-Irish initiative seeking a political solution to the Ulster question; more immediately, he will aim to improve relations between the two countries in the wake of the ending of the prolonged hunger strike by Irish nationalist prisoners held in Northern

The council might include Cabinet ministers from both countries initially. But Dr

FitzGerald is known to believe made a first move in launching tripartite, and include poli-ticions of all persuasions from

willing to participate.
The idea of setting up a council or some other form of Anglo-Irish machinery to look at constitutional matters can be seen as linked to Dr FitzGerald's recently launched "crusade for constitutional reform within

the Irish Republic itself. Dr FitzGerald has said he is launching his crusade to win public support domestically to amend the Republic's constitution. Specifically, he seeks to alter Articles 2 and 3, through which the Republic claims sovereignty over all 32 counties of Ireland, including the six that make up Northern Ireland.

The Dublin premier hopes that by doing this, and also perhaps by removing the con-stitutional ban on divorce. Ulster's Protestant Unionists

may accept some closer links with the Irish Republic. Dr FitzGerald feels he has

that any further talks should be his proposal for constitutional change. However, any success he may have in changing the Northern Ireland, if they are attitudes in the Republic may well be contingent upon the British Government's willingness to re-examine the constituarrangement

Northern Ireland. Whether Mrs Thatcher will agree to a ministers council is questionable. Relations between the two Governments deteriorated in the summer as Irish ministers criticised Mrs Thatcher's handling of the hunger strike. The protest, now ended, resulted in 10 Republic prisoners themselves to death.

Joint Anglo-Irish studies at official level were initiated at the end of last year after a summit meeting between Mr Charles Haughey. Dr Fitz-Gerald's predecessor, and Mrs Thatcher. Mr Haughey bailed the decisions as an historic breakthrough in Anglo-Irish

though it has been used on a number of occasion in Northern Dock strike could 'mean disaster'

FINANCIAL TIMES REPORTER

THE LOSS-MAKING port of because of an indefinite strike over manning levels by the

Officials of the Mersey Docks yards and down to the pave- and Harbour Company, the ment. approaching has already lost some £2.47m

taken at a mass meeting of registration num- half the port's dockers in Livertiations, of a pay and produc-

Liverpool is expected to be at more than 20 vessels. Others a standstill from this morning are likely to be diverted and employers fear trade will be lost irretrievably if the stoppage is prolonged. The Liverpool-Isle of Man passenger ser-vice is expected to operate

normally, but cargo services are

Only a handful of dockers at the meeting voted against the recommendation from the Mersey Docks shop steward to employed by the Liverpool Maritime terminals.

The men have been on strike Liverpool Huskisson Dock area following a walkout on one

Work will be halted today on vessel on which a cargo in the

The dockers called for reinforcements and the gang of four men was stepped up to six when they demanded another two it was rejected.

The employers hav insisted throughout that changes in working practices were essential to make the package self financing. The most sensitive change was a reduction in manning levels, opposed throughout strike in support of 500 men by the transport workes' nego-

since last Wednesday halting stewards said: "We have been work on three freighters in the instructed by our officials and no other decision could be

Continued from Page 1

Gas pipelines

may provide 60m cubic feet a day of gas.

Such a flow rate could provide Shell and Esso with a because pipeline will have limited spare capacity. The Une was designed toc arry 1bn cubic feet a day - over a fifth of the UK's average daily requirement. But production from the Brent Field alone could amount to tensive care and whose conmethane (natural gas) and gas

liquids. Mobil, operator of the Beryl Field, confirmed at the weekend that it was investigating afternative ways of landing its natural gas. One of these options includes a new pipe-line." the company said. "We are also talking with other companies about possible joint

At 11.30 am an attempt was made to stort the van, which was then pushed by two of the hombers and a member of the hombers and a member of the and Norwegian sectors. The more economically than the ill-smaller UK portion of the field fated gas gathering network, partly because their lines would use existing facilities and narrly because they would be built in

> was needed. They also said pipeline developments could only be justified if British Gas offered commercial prices for gas

Companies have long complained that old contracts, covering supplies from the southern sector of the North Sea, have unrealistically low prices - less than an a therm compared with the 29p a therm charged by

sufficient to make commercial development worthwhile. But ment will emerge at it the corporation has refused to ence in three weeks. set a reference price.

Continued from Page 1

BL strike would hit new project

Malaysian move against British goods

Kuala

The Malaysian Government countries have learned to play

One factor appears to be the ing that British businessmen

against British firms over recent Malaysian Foreign Minister, said situation.

position, and the threat posed

Union leaders have made clear that they understand BL's position, are not seeking corfrontation, and would welcome

talks to improve the pay deal. BL, which in the past three seems likely to mount a propa-

Diplomats and businessmen in Kuala Lumpur insist that the

tween Britain and Malaysia no

Lumpur also claim that it no longer matters whether the

vetting procedure amounts to a

think twice about pitching for a

contract," one British business-

The threat to choose non-

BY WONG SULONG IN KUALA LUMPUR AND DAVID DODWELL IN LONDON

Businessmen

THE SUPREME COUNCIL of the Prime Minister said at the

Malaysia's ruling United Malays' weekend: "I don't see the need

National Organisation gave full for any clarification. It is a

backing this weekend to what simple directive which anybody amounts to a boycott of British can understand."

Meetingin Kuala Lumpur, the implications are far from clear.

council. which is effectively it is nevertheless evident that Malaysia's top political body, the once easy association be-

Dr Mahathir has so far re-fused to say that the action to make any British company

tish goods, or awarding contracts an accumulation of resentment

his office before importing Bri- move is apparently the result of by them.

ganda campaign aimed at the shop floor to stress both the risks to the company and the benefits of the present self- dustrial base is reduced. financed productivity scheme.

At Longbridge, Birmingham, the company's largest plant, output of the successful Metro hit yielded a consequent record bonus of £19 to the work force. smaller and weaker.

share-dealing rules in London

dawn raids." in which control

designed to dicsourage so-called

hands in a sudden spurt of buy-

Nasional, Malaysia's main in-

vestment arm, of a controlling interest in Guthrie Corporation,

a British company with substantial plantation interests in Malaysia.

The new rules are non-

statutory and are not directed

of the commercial game just as

Malaysia and other developing

Tan Sri Ghazali Shafie, the

after the UMNO Council meet-

against foreign companies.

purchase

One such transaction was the

recent introduction of new should "re-examine their atti-

Although the Government nate all their British suppliers

played no part in these changes, in due course, maintaining con-Dr Mahathir apparently sees the UK as trying to change the rules provide services that are abso-

transaction was the that there was no "anti-British of Permodalan Government" attitude, but an

lutely essential.

Malaysia

Chambers

are expectd to complain during debates about the lack of Government action

Industrialists have become not only delay the end of the

Government's life, the associa British Gas to industrial and Industry on issues like cuts in commercial contract customers, regional aid. Now, it is being British Gas has told com- more outspokenly critical than panies it will pay prices the CBI whose internal divisions over support for the Govern ment will emerge at its confer-

> In its statement this morning which has been sent to the Prime Minister, the Association

It also warms that the "leaner and fitter" description of in-dustry proclaimed by Ministers. including Mr Patrick Jenkin, the record levels last week and new Industry Secretary, could yielded a consequent record become a "euphemism for

tudes" toward Malaysia, and be

"more responsive to Malaysian

economic and political aspira-He tried to play down talk

anti-British business " attitude.

Government Departments, as

well as the 13 state governments in peninsular Malaysia, which

are controlled by UMNO, are

all assuming that the vetting

procedure announced by the

Malaysian Government amounts

to a boycott, and plan to elimi-

In London officials at the Department of Trade are keen

tin

merger approved. Page 20

not to do anything that might

unpredictable

Continued from Page 1

th Conservative Party's annual conference where businessmen on the affair—not surprisingly,

past ten days that the recent increases in interest rates will recession by increasing the rate of destocking, but might also push some companies into a new rash of closures and redundancies,

further labour since the summer

of Chambers of Commerce warns the Government to "stop taking more and more from less and less" as Britain's in-

After the meeting, Mr Denis Kelly, chairman of the shop

increasingly worried during the

In hie early months of the tion gave it more support than Confederation of British

Low demand has already led a number of companies to shed holidays.

Secretary for Notrhern Ireland only three weeks ago-may break its silence after the Attorney-General's statement is issued

non, Labour's shadow Northern poor understanding of dividend alia last week probably owed expensively produced literatu Ireland Secretary and former yields. The authors suggest that something to their growing must mean that commissions a Northern Ireland Minister. in some cases the concepts may scarcity value, as well as to too high. that resulted in the De Lorean company being set up in 1978 with Government loans and grants.

Weather

UK TODAY
GENERALLY cold and cloudy,

with rain in the south-west and showers in the north. ondon, E Anglia, Midlands

Sunny intervals, scattered showers, rather cold. Max. 120 (54F).

SW England, Channel Isles Mostly cloudy, rain at times Max. 13C (55F). N England, Edinburgh, Dundee

N Ireland Sunny periods, showers, Max 12C (54F) NE Scotland, Moray Firth, Aber-

deen, Orkney, Shetland Squally showers, winds NW, strong to gale, Max 9C (48F), Outlook: Unsettled, cold, local

WORLDWIDE

Y'day
midday
°C °F
21 70
28 82 Lisbon
12 54 Locarno
25 77 London
24 75 L. Ang.†
27 81 Lusmbg.
9 48 Luxor
24 75 Madrid
10 50 Majorca He tried to play upwa street of a boycott by emphasising brussels but that there was no "anti-British Brussels Budpsi. Cardif 55 Warsaw F 752unch R Fair. Fg—Fog.

S-Sunny SI-Si Snow. T-Thunder.

Government De Lorean statement likely today

By Kenneth Gooding, Motor Industry Correspondent

SIR MICHAEL HAVERS, the Attorney-General, is expected to make a statement today about the allegations of financial irregularities at the De Lorean sports car company.
Mr Nicholas Winterton, Tory

MP for Macclesfield, who passed details of the allegations to the Prime Minister's Office. said yesterday that he would seek to raise the matter in the Com-

"I will pursue it until I am satisfied that the allegations are totally unfounded, or in fact there is substantial truth behind them." He would call for full-scale inquiry, "from A to

Pointing out that some £80m of Government money had been allocated to De Lorean, Mr Winterton said: "People should be given the chance to make up their minds via a full-scale inquiry

quiry whether or not their money has been well spent." The Attorney-General's statement will follow inquiries by Det-Chief Supt John George and Det-Chief Insp John Hefford of Scotland Yard's Serious Crimes Squad.

It has been stressed that these are "no more than the sort of routine steps which are taken over and over again, indeed

must be taken when allegations of the type now being bandied about are made." The two detectives have in-terviewed Mr Bill Haddad, communications director of De Lorean, in New York, about an inter-office memo said to have

been sent by him to Mr John De Lorean, the company's founder.

A copy of the memo is among the papers passed to the Prime Office by Mr

Mr Haddad's lawyer has said his client was the author of the and unsigned. The De Lorean company in New York said: We have no record of Mr De Lorean ever having received

Mr De Lorean arrived in London from New York on Friday everything straightened out," and has engaged the legal services of Lord Goodman.
The De Lorean plant is in Belfast. The Government cash was channelled to the company via the Northern Ireland De-

velopment Agency.
The Northern Ireland Office. which has made no comment yet

THE LEX COLUMN

Shareholders and sophistication

Institutional and the stockbrokers' analysts respondents only gave casual who advise them, are in theory some of the most important users of company financial results reveal that the attention statements. If such shareholders are not supplied with an adequate flow of accurate financial information the capital market cannot allocate resources properly. So it is intriguing that a new study* published by the English Institute of Chartered Accountants level of use of the source and concludes that such investors

ability to understand what company accounts are telling them. The report is the sequel to an earlier analysis of what private shareholders were capable of gleaning from the increasingly complex UK company annual report. Predictably, it was found that small sharehoders made little use of

are far from impressive in their

financial statements, which were increasingly becoming documents prepared by accountants for accountants.

But does it matter so long as the stock market is dominated by a breed of professional, sophisticated investors? The researchers. Professor T. A. Lee and D. P. Tweedie, set out to establish whether it is right to assume that the market can work properly because of the existence of such financial sophistication. The response by investors to their approaches was distinctly uneven - the insurance companies were much more co-operative than the pension funds, for example, but they finally achieved a total of 231 interviews. of which 136 were with institutional investors

and 95 with stockbrokers. In sharp contrast to the small orivate shareholders, financial experts certainly make comprehensive use of available financial information. Nearly all the respondents believed accounting information to be important to investment decision making, and nearly all believed they understood it. But then the authors set out to ascertain whether or not their perceived understanding

was compatible with their actual understanding."
All to often, the answer to this question turned out to be in the negative. The level of understanding was " not as high as might perhaps have been expected from financial experts." The basis for assessing this, was inevitably rather subjective and there are some odd results. Thus, only 15 per cent of respondents were judged to have a reasonable level of understanding of profit, and 80

More fangibly, the survey's

of the professional investor is heavily slanted towards traditional historical cost information. Getting on for half the sample had little or no understanding of the main concepts of record is a little patchy and
current cost accounting.

There was a relatively low counteract the interest

application of funds statement. In fact, the general lack of certainly result in earning attention paid by analysts to community should pay much shareholders with Sears more attention to the need to producing dividends of predict liquidity as well as and asset backing of about \$75 profitability.

More generally, Lee and Tweedie conclude that the investment community needs to pull its socks up in the area of comprehension. accounting Nowhere is this required more than in the more senior levels of the fund management profession, where the survey reveals that the older respondents have often failed to keep

up to date. Meantime, their advice to the. accounting profession is that investment community needs to be much more closely involved in the process of setting accounting standards. They point out that the interim report is one of the most highly rated by investors in terms of movement in Dean Witter stock its influence on investment The shares had jumped by decisions, yet is not regulated about a third in two days. by any accounting standards or guidelines.

The Institutional Investor and Financial Information, by Accountants in England and Wales. £15.

Dean Witter

U.S. securities companies were looking even thinner last week after Sears, Roebuck, the U.S. retailing giant, announced a consol rate; \$609m agreed bid for Dean. It is not just Simon an Witter Reynolds, the fifth Coates who are mounting a largest securities group on Wall

securities company to be part of P and D's coverage—ti-swallowed through merger or firm's Red Book on equiacquisition this year, and its market indicators, will condisappearance leaves only five under attack shortly from bo quoted securities firms on the Roare Govert and James Capt market in two of these—Paine services like these are one w Webber and Donaldson Lufkin that brokers can compete a Jenrette-is already limited by market share. The question the presence of a single large whether clients will holder. So the strong rise in the impressed, or whether they may be a single large. Meanwhile, Mr Don Concan- per cent had only a vague or share prices of E. F. Hutton et conclude that the flood

ctivity. Sears is paying a healthy cash and equity offer is worth of \$50 per share which is more then twice book rains an roughly it times fully divise earnings for the year to hugg

sensitivity of Sears own pref Moreover the offer will sink cash flow surprised the authors, shareholders. At compared of and one of their recommenda, the equity component of the tions is that the investment bid would leave Dean With

> for a Dean Witter share yield ing \$0.80 and carrying a bool value of \$23. economies by grafting Dea Witter on to its data processing and marketing network ... A credit facilities in some way, it is obviously well placed to build un a financial services con

glomerate aimed at the con In one respect at least, last 10 week's offer left a rather som taste. The two companies were obliged to bring forward the announcement by some sinister movement in Dean Witter stock

Economics growth

Brokers Simon and Coates "Economics Analyst"-A. Lee and D. P. Tweedie. sporting a glossy, coloured cover The Institute of Chartered and running to 60 pages seen to be designed to leapfrog some ofth e already heavyweight rom-petition in the field. Within its pages the eager investor may The ranks of independent pursue material as divergen as table on vehicle sales in Singapore, or a chart of the spectral density function for th

consol rate. It is not just Simon an

attack on broker publishin treet. territory originally carved of Dean Witter is the seventh by Phillips and Drew. Anothr



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